FINE ARTS DEPT. S



# THE ARCHITECTS' JOURNAL



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*Standard contents*

*every issue does not necessarily contain all these contents, but they are the regular features which continually recur*

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*CURRENT BUILDING*
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*Buildings in the News*
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*Architectural Appointments Wanted and Vacant*

No. 3209] [Vol. 124

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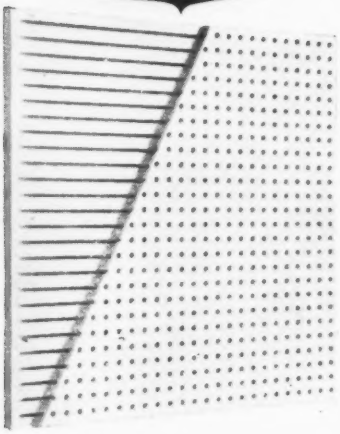
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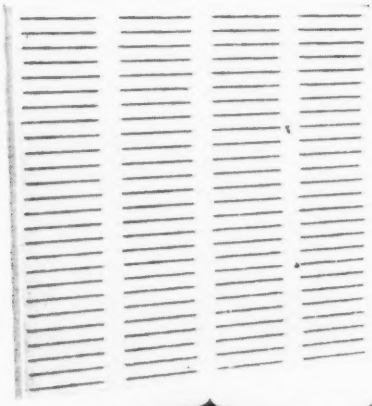
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ig one week, Ih to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

| | | |
|---|---|---|
| AA | Architectural Association, 34/6, Bedford Square, W.C.1. | Museum 0974 |
| AAI | Association of Art Institutions. Secy.: W. Marlborough Whitehead, "Dyneley," Castle Hill Avenue, Berkhampstead, Herts. | |
| ABS | Architects' Benevolent Society. 66, Portland Place, W.1. | Langham 5721 |
| ABT | Association of Building Technicians. 1, Ashley Place, S.W.1. | Victoria 0447–8 |
| ACGB | Arts Council of Great Britain. 4, St. James' Square, S.W.1. | Whitehall 9737 |
| ADA | Aluminium Development Association. 33, Grosvenor Street, W.1. | Mayfair 7501/8 |
| ARCUK | Architects' Registration Council. 78, Wimpole Street, W.1. | Welbeck 2915 |
| BAE | Board of Architectural Education. 66, Portland Place, W.1. | Langham 5721 |
| BATC | Building Apprenticeship and Training Council. Lambeth Bridge House, S.E.1. | Reliance 7611, Ext. 1706 |
| BC | Building Centre. 26, Store Street, Tottenham Court Road, W.C.1. | Museum 5400 |
| BCC | British Colour Council. 13, Portman Square, W.1. | Welbeck 4185 |
| BCCF | British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5. | Ealing 9621 |
| BCIRA | British Cast Iron Research Association. Alvechurch, Birmingham. | Redditch 716 |
| BDA | British Door Association. 10, The Boltons, S.W.10. | Fremantle 8494 |
| BEDA | British Electrical Development Association. 2, Savoy Hill, W.C.2. | Temple Bar 9434 |
| BIA | British Ironfounders' Association. 145, Vincent Street, Glasgow, C2. | Glasgow Central 2891 |
| BID | Building Industries Distributors. 52, High Holborn, W.C.1. | Chancery 7772 |
| BINC | Building Industries National Council. 11, Weymouth Street, W.1. | Langham 2785 |
| BOT | Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1. | Trafalgar 8855 |
| BRS | Building Research Station. Bucknalls Lane, Watford. | Garston 2246 |
| BSA | Building Societies Association. 14, Park Street, W.1. | Mayfair 0515 |
| BSI | British Standards Institution. British Standards House, 2, Park St., W.1. | Mayfair 9000 |
| BTE | Building Trades Exhibition. 32, Millbank, S.W.1. | Tate Gallery 8134 |
| CABAS | City and Borough Architects Society. C/o Johnson Blackett, F.R.I.B.A., Civic Centre, Newport, Mon. | Newport 65491 |
| CAS | County Architects' Society. C/o F. R. Steele, F.R.I.B.A., County Hall, Chichester. | Chichester 3001 |
| CCA | Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. | Sloane 5255 |
| CCP | Council for Codes of Practice. Lambeth Bridge House, S.E.1. | Reliance 7611 Ext. 1284 |
| CDA | Copper Development Association. Kendals Hall, Radlett, Herts. | Radlett 5616 |
| CIAM | Congrès Internationaux d'Architecture Moderne. Doldertal, 7, Zurich, Switzerland. | |
| COID | Council of Industrial Design. 28, Haymarket, S.W.1. | Trafalgar 8000 |
| CPRE | Council for the Preservation of Rural England. 4, Hobart Place, S.W.1. | Sloane 4280 |
| CUC | Coal Utilization Council. 3, Upper Belgrave Street, S.W.1. | Sloane 9116 |
| CVE | Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1. | Reading 72255 |
| DGW | Directorate General of Works, Ministry of Works, Lambeth Bridge House, S.E.1. | Reliance 7611 |
| DIA | Design and Industries Association. 13, Suffolk Street, S.W.1. | Whitehall 0540 |
| DPT | Department of Overseas Trade. Horseguards Avenue, Whitehall, S.W.1. | Trafalgar 8855 |
| EJMA | English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1. | Regent 4448 |
| EPNS | English Place-Name Society. 7, Selwyn Gardens, Cambridge. | |
| FAS | Faculty of Architects and Surveyors. 68, Gloucester Place, W.1. | Welbeck 9966 |
| FASS | Federation of Association of Specialists and Sub-Contractors, Artillery House, Artillery Row, S.W.1. | Abbey 7232 |
| FBBDO | Fibre Building Board Development Organization, Ltd. (Fidor), 47, Princes Gate, Kensington, S.W.7. | Kensington 4577 |
| FBI | Federation of British Industries. 21, Tothill Street, S.W.1. | Whitehall 6711 |
| FC | Forestry Commission. 25, Savile Row, W.1. | Regent 0221 |
| FCMI | Federation of Coated Macadam Industries. 37, Chester Square, S.W.1. | Sloane 1002 |
| FDMA | The Flush Door Manufacturers Association Ltd., Trowell, Nottingham. | Ilkeston 623 |
| FLD | Friends of the Lake District. Pennington House, nr. Ulverston, Lancs. | Ulverston 201 |
| FMB | Federation of Master Builders. 26, Great Ormond Street, Holborn, W.C.1. | Chancery 7583 |
| FPC | The Federation of Painting Contractors, St. Stephen's House, S.W.1. | Whitehall 3902 |
| FRHB | Federation of Registered House Builders. 82, New Cavendish Street, W.1. | Langham 4341 |
| GBPA | Gypsum Building Products Association, 11, Ironmonger Lane, E.C.2. | Monarch 8888 |
| GC | Gas Council. 1, Grosvenor Place, S.W.1. | Sloane 4554 |
| GG | Georgian Group. 2, Chester Street, S.W.1. | Belgravia 3081 |
| HC | Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. | Whitehall 2881 |
| IAAS | Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1. | Belgravia 3755 |
| ICA | Institute of Contemporary Arts. 17–18, Dover Street, Piccadilly, W.1. | Grosvenor 6186 |
| ICE | Institution of Civil Engineers. 1, Great George Street, S.W.1. | Whitehall 4577 |
| IEE | Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2. | Temple Bar 7676 |
| IES | Illuminating Engineering Society. 32, Victoria Street, S.W.1. | Abbey 5215 |
| IGE | Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1. | Sloane 8266 |

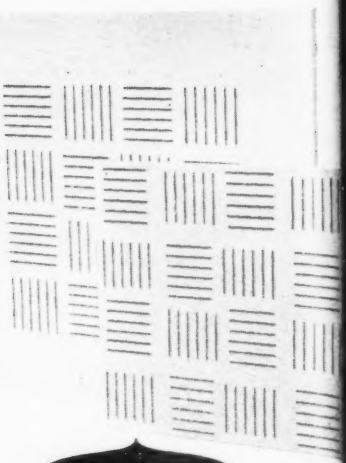
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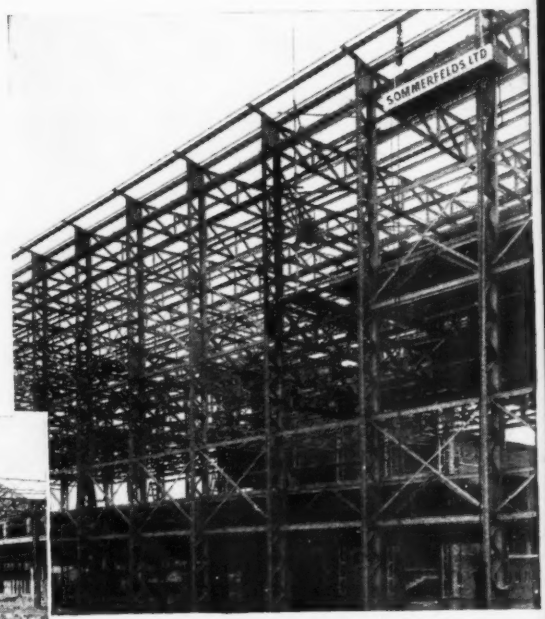
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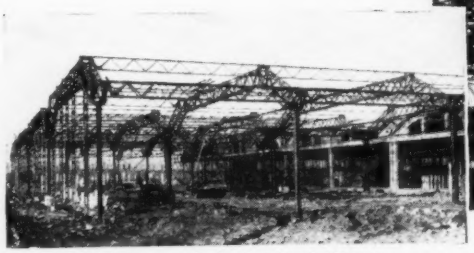
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*Architect: Messrs. J. Douglas Mathews & Partners.*



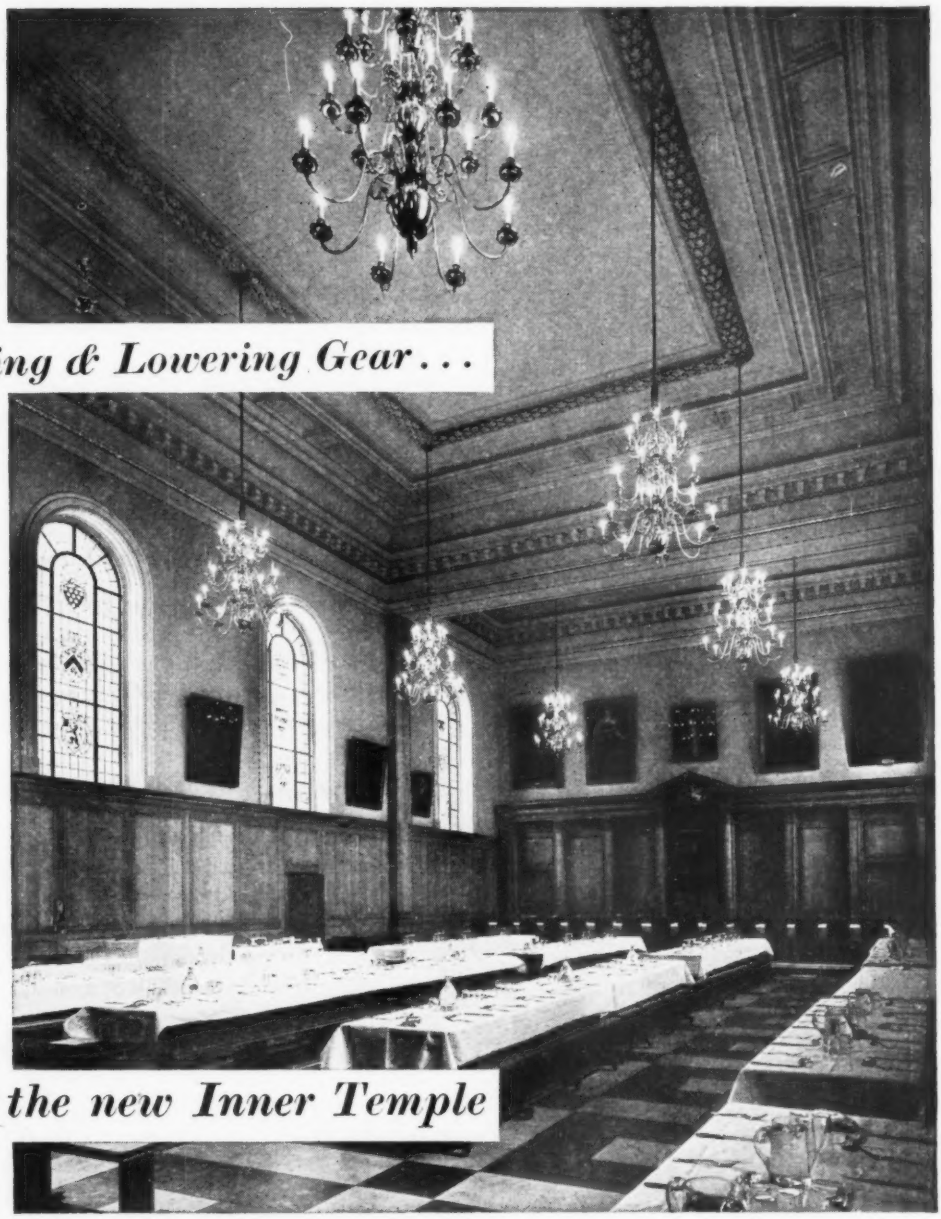
*Architect-Planner: Frederick Gibberd, F.R.I.B.A., M.T.P.I. Executive Architect: Victor Hammett, B.Sc., A.R.I.B.A.*

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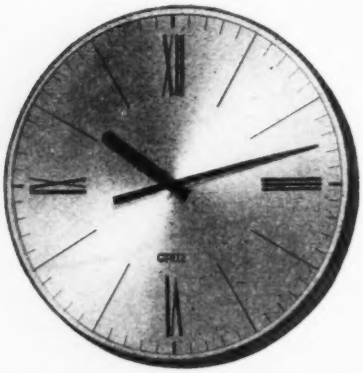
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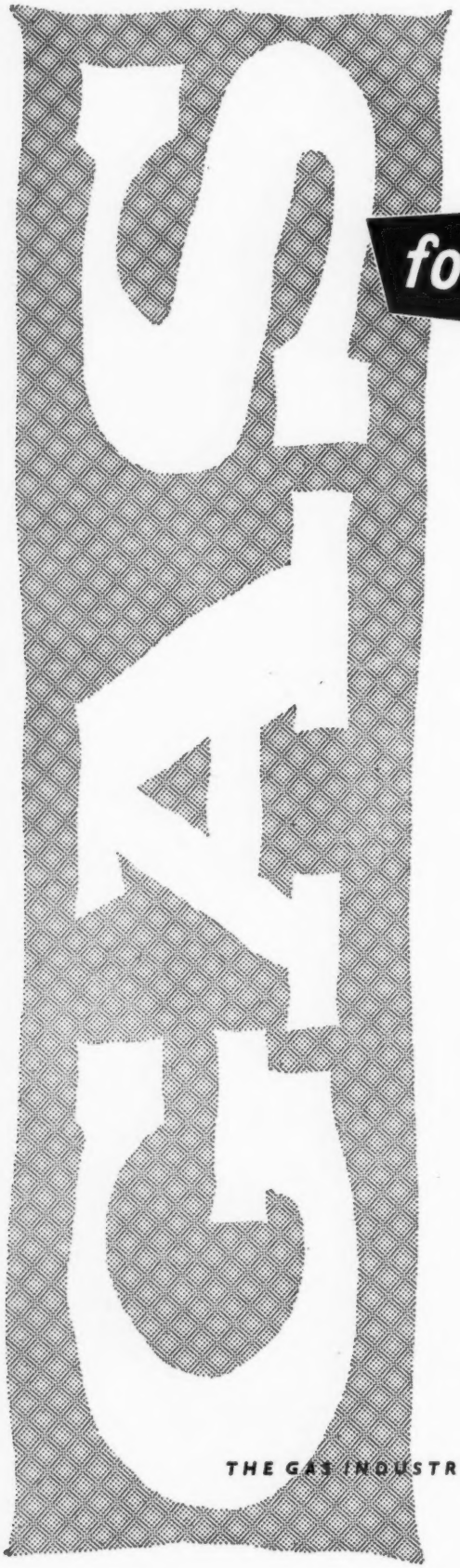
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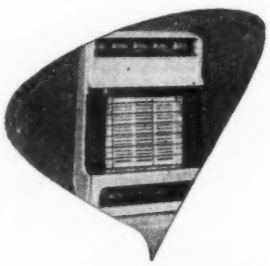


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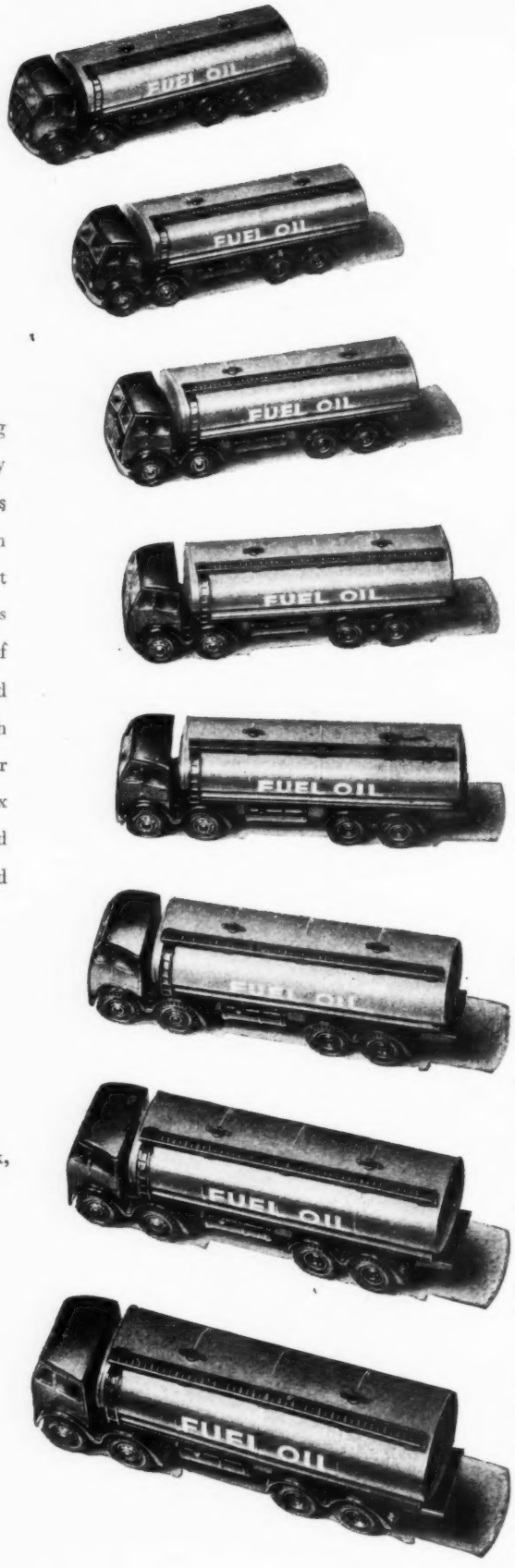
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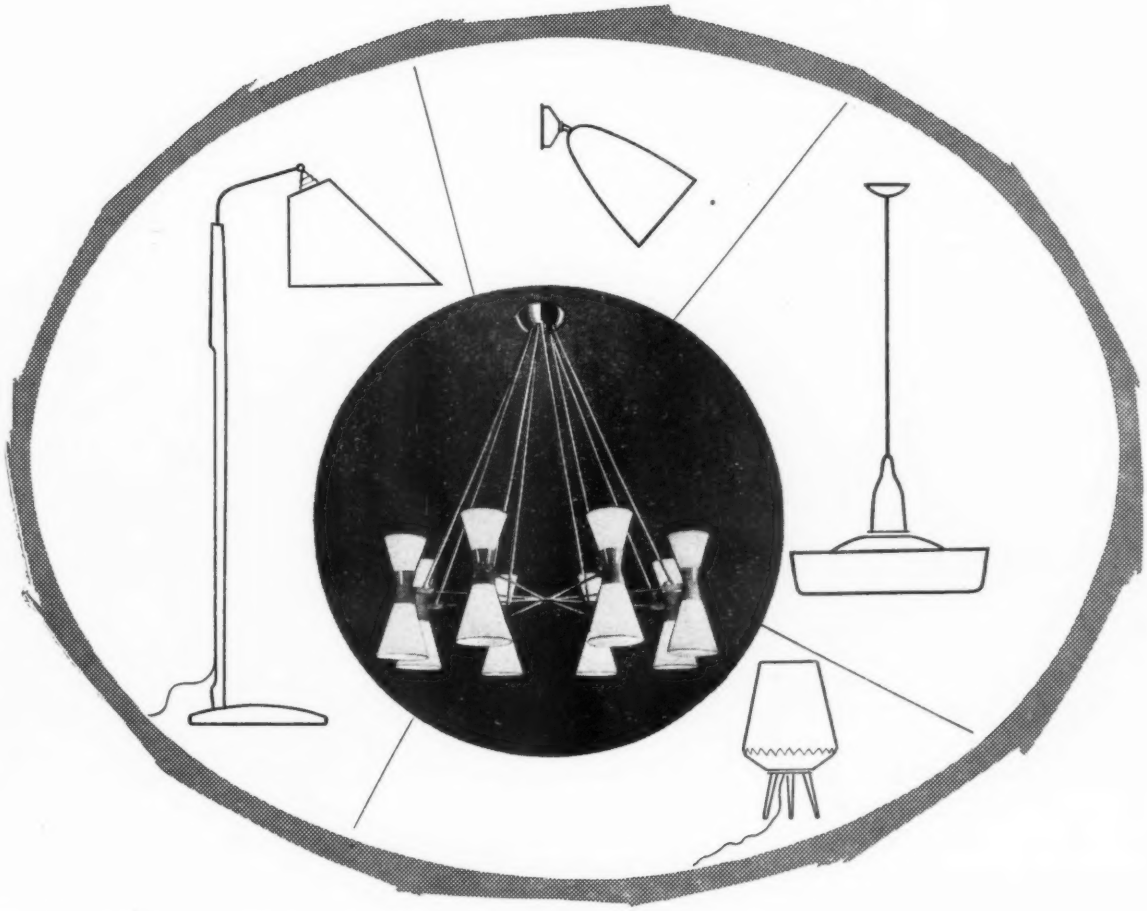
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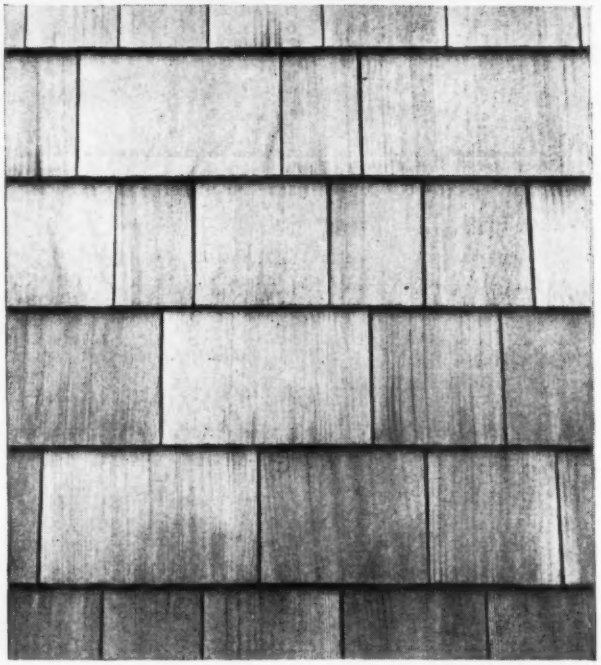
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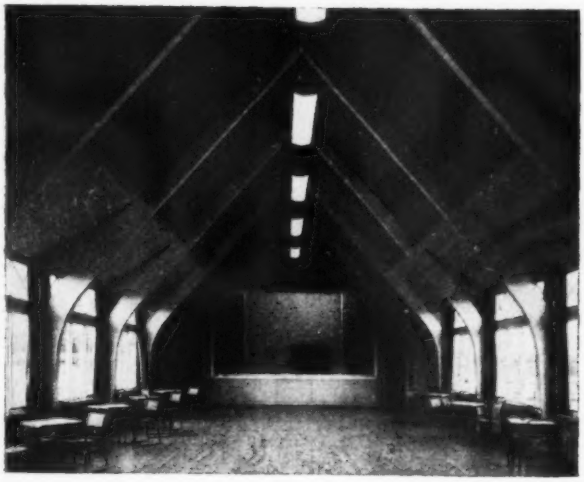
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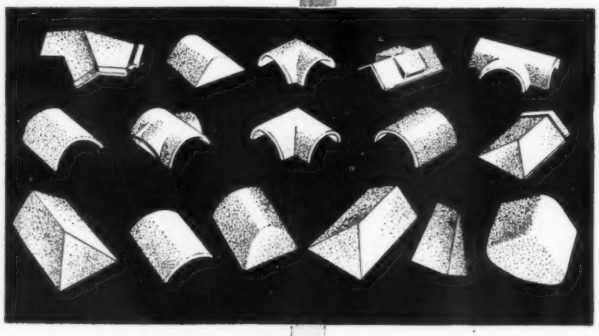
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*Mercury House, London, is the administrative centre of Cable & Wireless Ltd.*

*The building was designed by S. G. Jeeves, Esq., M.C., F.R.I.B.A.*

*Accommodation planning and much of the interior fitting was the work of the Company's Chief Architect and Surveyor, H. C. Upton, Esq., F.R.I.B.A. R. F. Wilson, Esq., Art Director of the British Colour Council was commissioned to design the interior decoration.*

*Main Building Contractors: Sir Robert McAlpine & Sons, Ltd.*

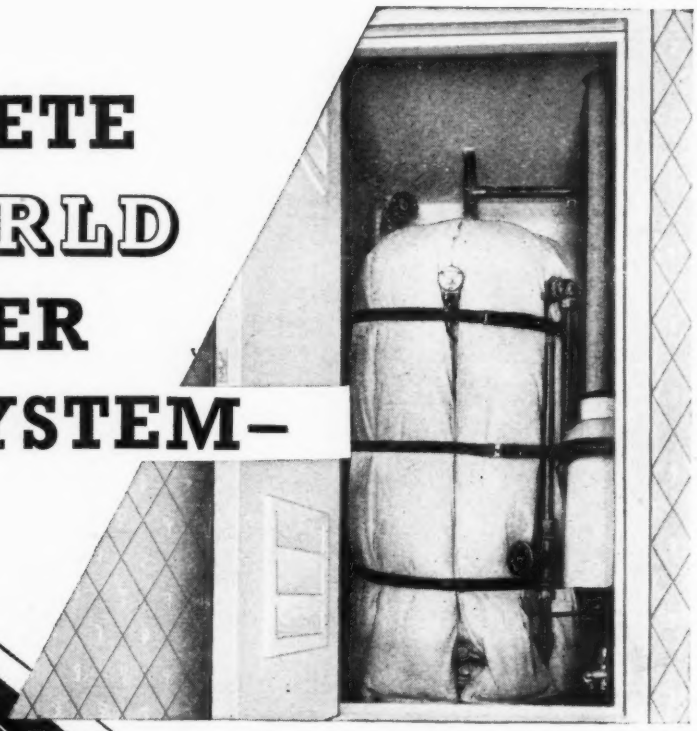
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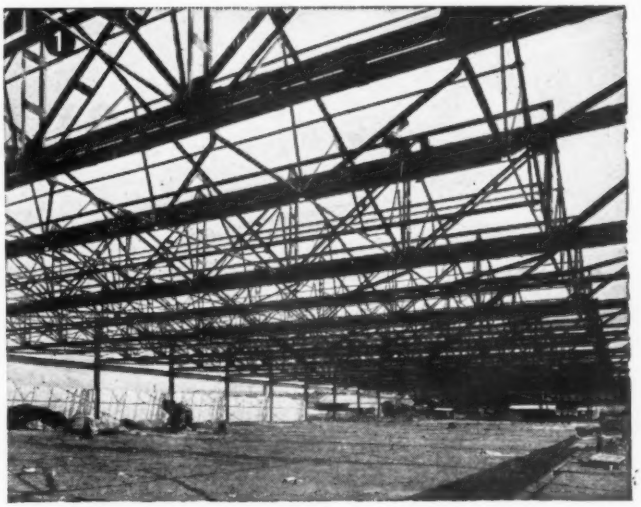
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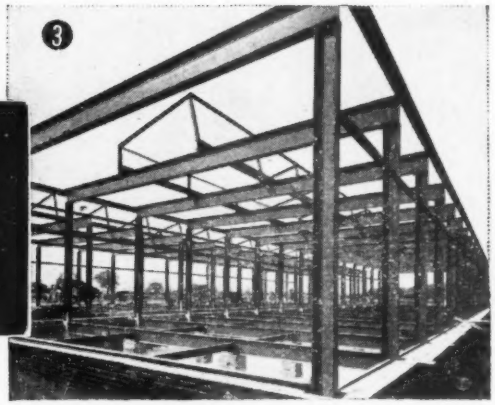


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3 College of Further Education, Grimsby, in course of erection.

4 The completed College.



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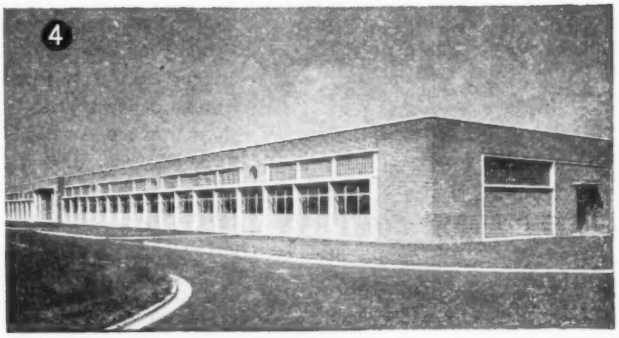
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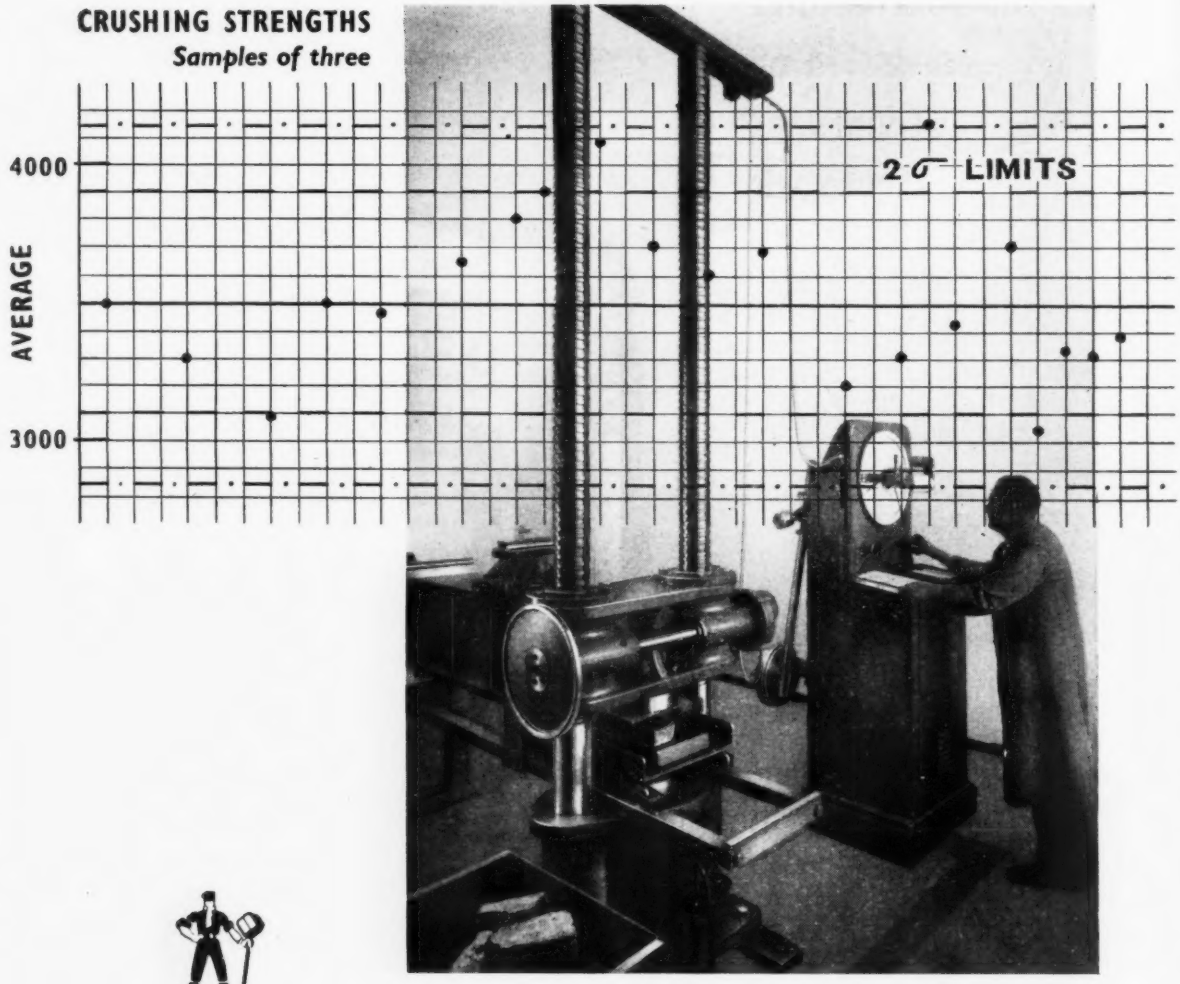
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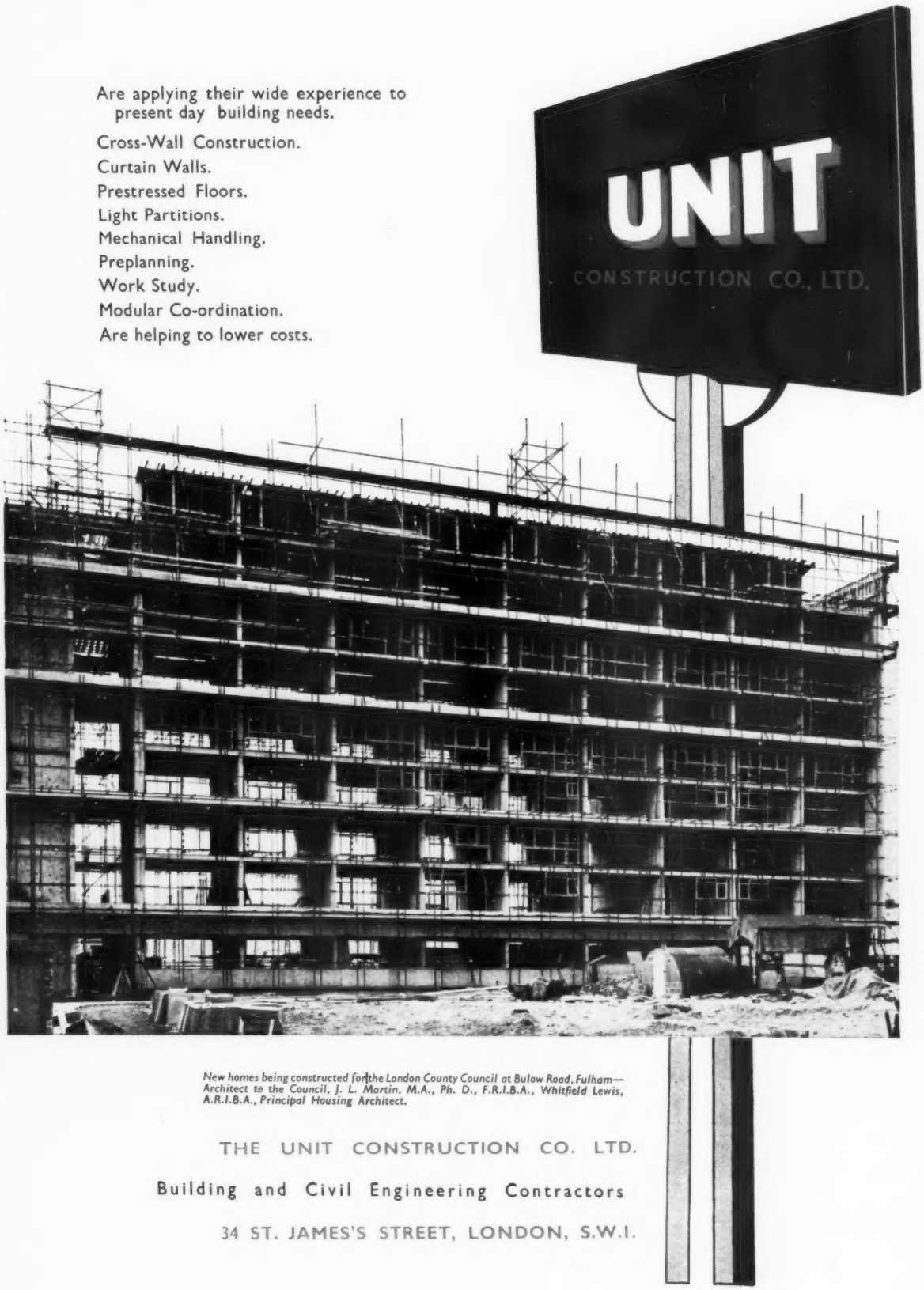
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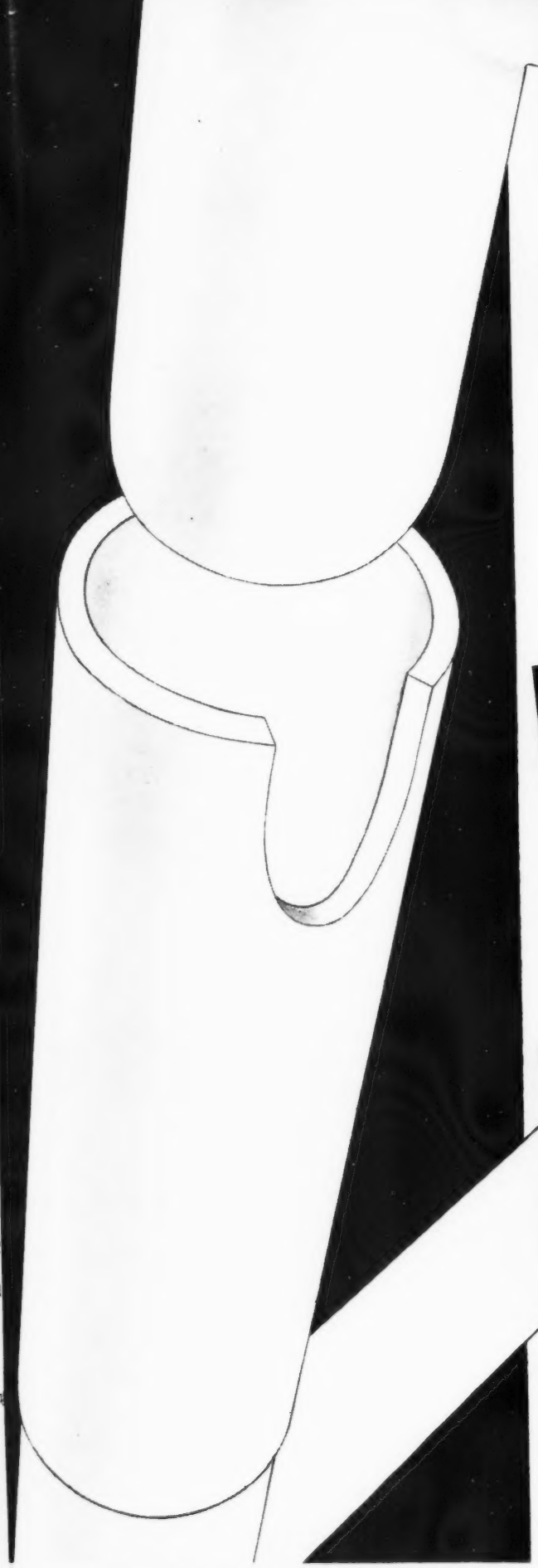
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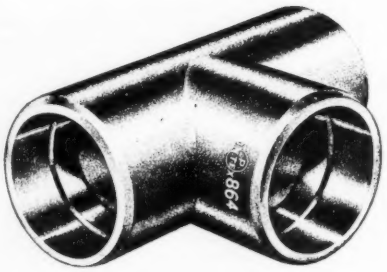
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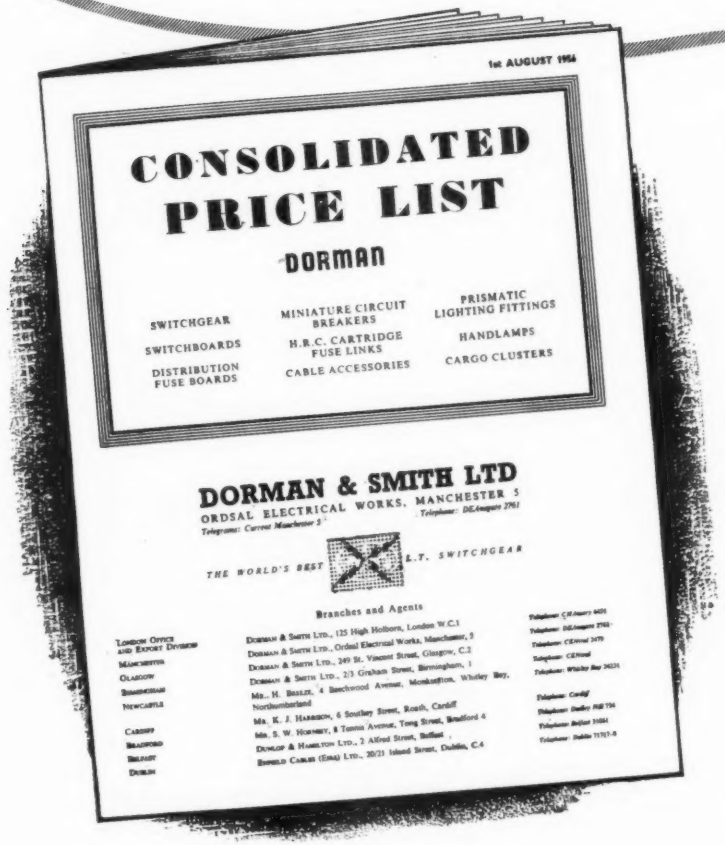
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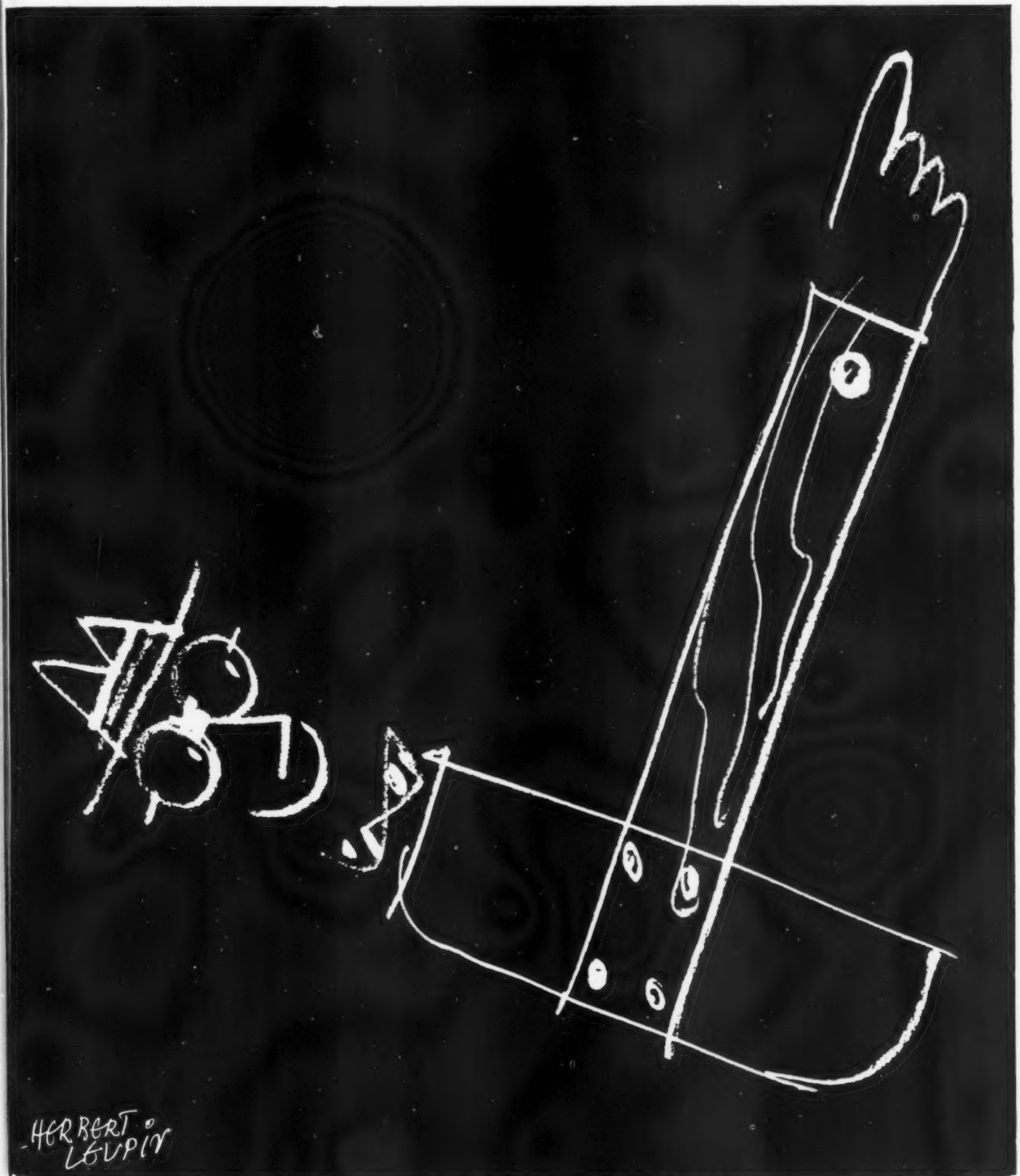
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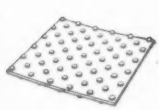
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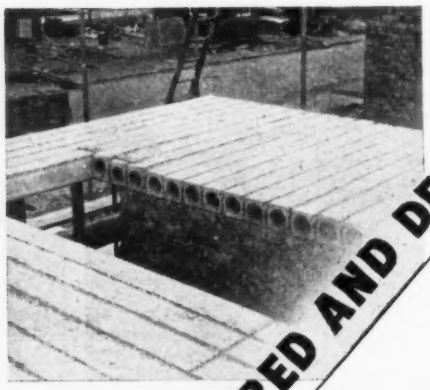
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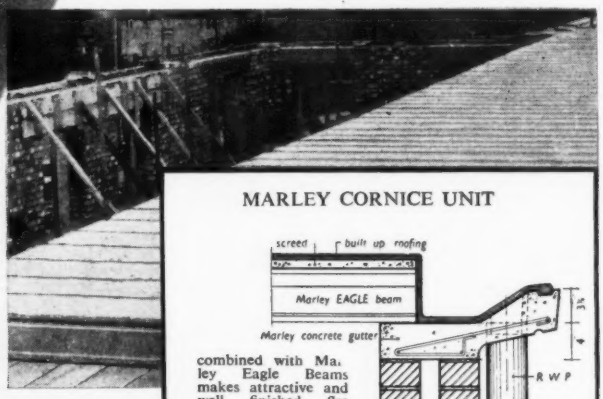
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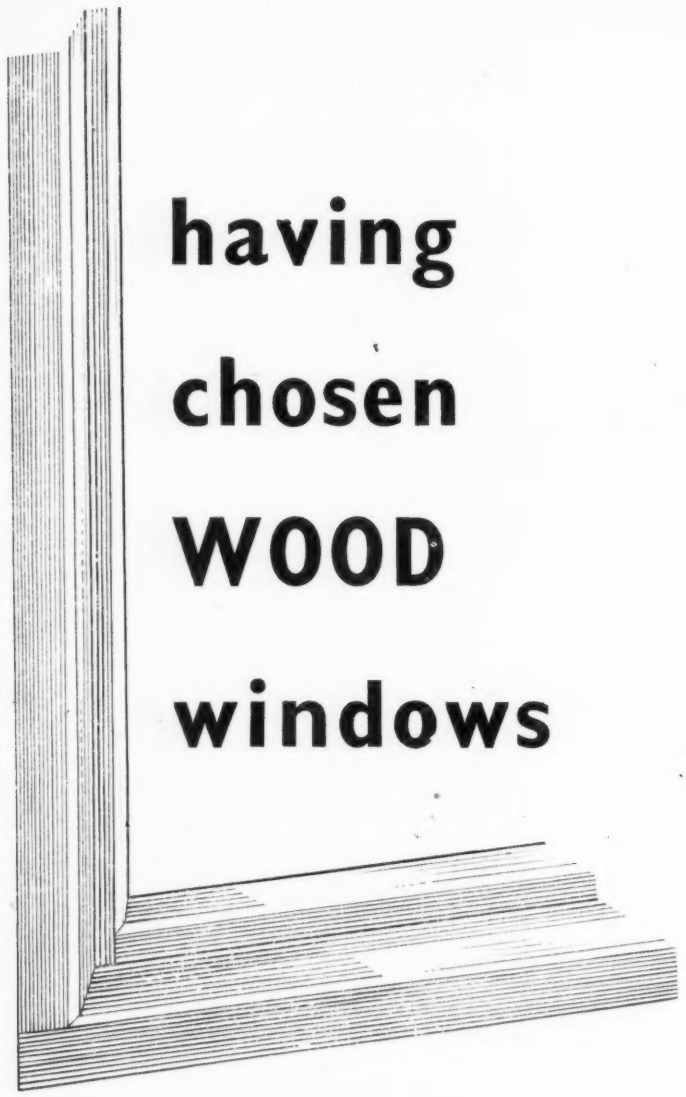
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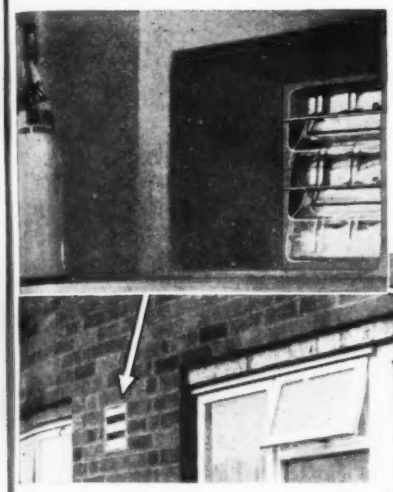
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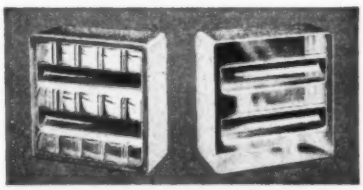
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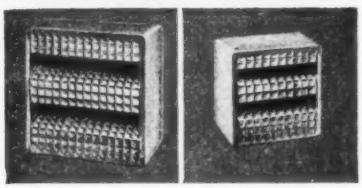
*(Patent Nos. 552195, 583552. Further patents pending.)*
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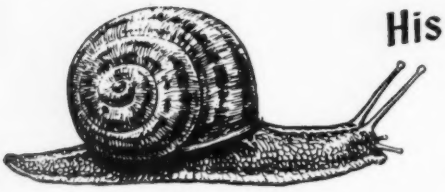
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BD 733

AFA *in the Royal Exchange*



This photograph, which was taken in the Royal Exchange, London, where a comprehensive A.F.A. system has been recently fitted, gives further evidence that A.F.A. blends into any decorative scheme. It is equally applicable to existing buildings as above or to the hundreds of new offices, factories and shops going up all over Britain.
The flush-fitting detectors are quite unobtrusive—yet if fire breaks out they call the Brigade at once to the exact location. May we send full particulars?

*Photograph by kind permission of Royal Exchange Assurance and The Worshipful Company of Mercers.*

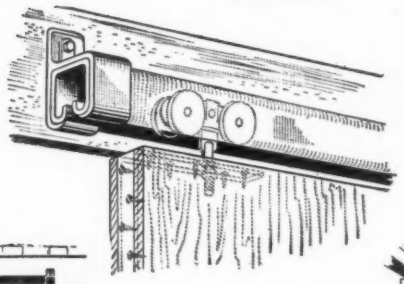
THE BUILDING CENTRE 26 STORE STREET W.C.1

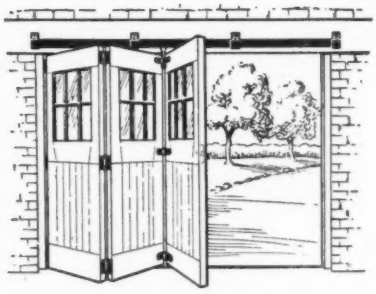
**ASSOCIATED FIRE ALARMS LIMITED**
CLAREMONT ROAD, WALTHAMSTOW, LONDON, E.17
**SERVICE IN ALL MAIN CITIES**

TAS/AF.62

# Specify Coburn

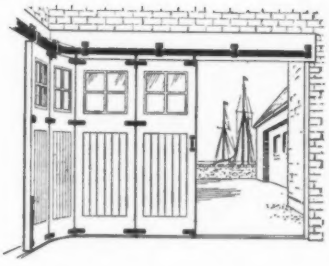
THE ORIGINAL AND BEST
## SLIDING DOOR GEAR





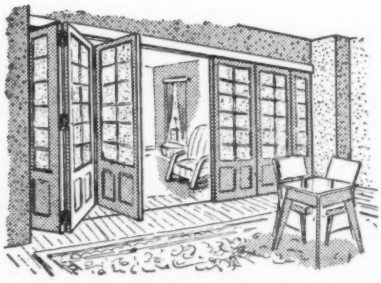
### END HUNG VEE GEAR

is used for exterior and interior folding and sliding doors and screens and is especially suitable when side walls may not be used. The example shown is our No. 197 VEE gear.



### ROUND-THE-CORNER GEAR

is ideal for use in garages and similar buildings. Our range varies from the lightest door size to a type suitable for bus garages.



### CENTRE HUNG VEE GEAR

is very suitable for interior use in private residences and public rooms. On the No. 600 VEE gear shown the fittings are not visible on either face of the leaves.



### "OVER-THE-TOP" GARAGE DOOR GEAR

is equally suitable for both new doors and the conversion of conventional doors to "over-the-top" operation. Simple to install and maintenance-free.

**ALSO**

**MASTER GEAR**
for light interior doors

**CUBBARD GEAR**
for cabinets, showcases, cupboards, etc.

**OVERHEAD RUNWAYS**
for industry

*Before commencing joinery for "Vee" Gear, application should be made to us for formula drawings to enable correct leaf widths to be ascertained.*

***12 SIZES OF TUBULAR TRACK FOR THE LIGHTEST TO THE VERY HEAVY DOOR***

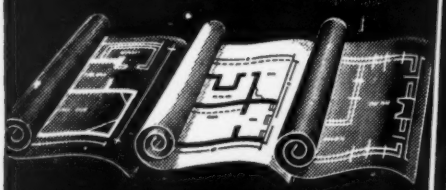
*Write for drawings, catalogues, questionnaire and advice:—*

**The BRITISH TROLLEY TRACK CO. LTD. COBURN WORKS · COPPERFIELD ST. LONDON · S.E.1.**

*Telephone: WATERLOO 4311 (5 lines). Private Branch Exchange.*

NOW !

BY ANY PROCESS!



SHARPER
white or blueprints




**Strong...**
Venus Pencil leads are pressure-proofed* for maximum strength

**SMOOTH...**
made by a special colloidal process* which removes all impurities

**ACCURATE...**
exactly graded in 17 different degrees of hardness

*Exclusive Venus Patents

Durable non-crumbling points; strong and smooth in action give lines uniform in weight and tone. Opaque lines for sharp, clear reproduction. No smudges. No "ghosts" from erasure. There's the right degree for your favourite paper. The result: sharper prints — by any process!

THE PENCIL WITH THE CRACKLE FINISH

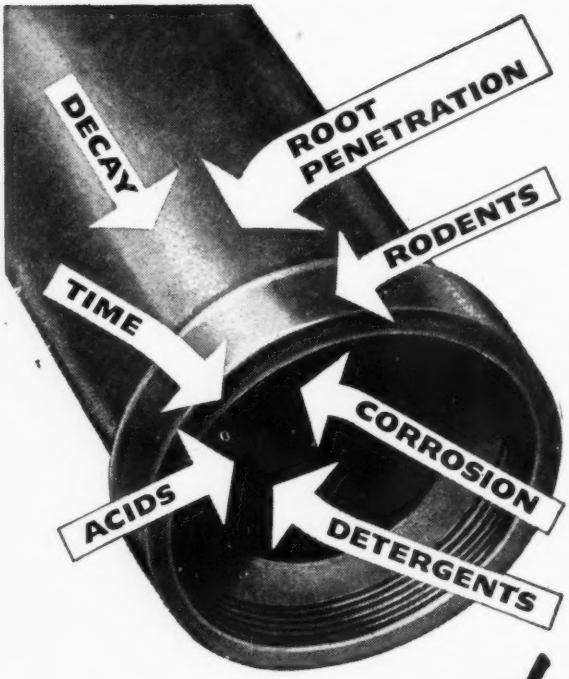
VENUS
DRAWING
PENCILS




Use also Venus Soft Pencil Eraser

VENUS PENCIL CO. LIMITED
LOWER CLAPTON ROAD, LONDON, E.5






*Underground resistance*
OF SALT-GLAZED
STONEWARE
*has stood the test of time*

UNDERGROUND RESISTANCE is the theme of Doulton Pipes. It began away back in the 1840's when Sir Henry Doulton established the first Salt-Glazed Stoneware Pipe-Works.

In use for over 100 years, they have withstood the test of time. Unearthed today — they have proved themselves impervious to corrosion and decay — in fact, to have remained unchanged in a changing world.

*For Underground Resistance—put down Doulton Salt-Glazed Stoneware Pipes. There is security in Doulton Drainage Materials.*

DOULTON VITRIFIED PIPES LTD., Dept. BEP,
Doulton House, Albert Embankment, London, S.E.1.

Royal
DOULTON
SALT-GLAZED DRAINAGE MATERIALS

C B5002



THE MIDLAND WOODWORKING CO. LTD. MELTON MOWBRAY

*Specialists in high class Standard Joinery for the Building Trade*

AP/MW.13




AHLSTRÖM

**five three**

*the hardboard with the extra width*

*Enquire from your local merchants or from*

Plywood & Timber Products Agencies Ltd.
City-Gate House, (East), Finsbury Square, E.C.2

**Manufactured by A. AHLSTRÖM OSAKEYHTIÖ, FINLAND**

# Finest finish yet for walls, ceilings

Siscomatte is a new *rubberised* paint recently developed by Sissons Brothers of Hull, which provides the finest matt finish ever known for interior walls and ceilings.

Siscomatte is not a *chlorinated* rubber paint, and with normal painting technique presents no difficulties in joining up on large surfaces. Yet its rubber base makes it both steam-proof and condensation resistant. For this reason, Siscomatte is ideal for kitchens, bathrooms, restaurants, canteens and many other industrial premises where steam is a problem.

Siscomatte is extremely easy to apply—far easier than ordinary eggshell finishes. It may be brushed or sprayed and requires no working out. Siscomatte dries quickly and evenly—it's touch-dry in about four hours, hard overnight.

Siscomatte has been formulated to produce a velvet-smooth surface which is simple to keep clean, tough enough to be scrubbed and to give maximum resistance to detergents.

Only modern technical knowledge and prolonged research have made it possible to produce a matt wall finish combining at one and the same time all these advantageous properties.

Siscomatte is made in a range of 30 selected colours.

## For woodwork, too

Siscomatte is an extremely versatile paint in that it is equally suitable for woodwork or metalwork as for walls. This has led Sissons to develop another new product—Siscoglow.

Siscoglow is a *transparent paint*—not a varnish—and is applied *over* Siscomatte on all woodwork. The result is an extremely attractive subdued gloss finish almost impossible to obtain by any other method.

## New "Plain & Pearl" Effect

This "pearl" finish is quite as practical as a full gloss—it's hard, durable, and doesn't encourage finger-marks—yet it's more restful to the eye. This new decorating scheme, using Siscomatte and Siscoglow, has been named the "Plain and Pearl" effect.

"Plain and Pearl" not only gives a toning, attractive finish to any room—it also saves time on "cutting in" and eliminates the time usually spent matching up matt and gloss paints.

**FREE TO ARCHITECTS**

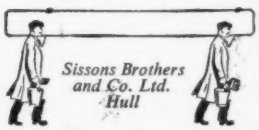
*You may already have been sent a panel painted with Siscomatte and Siscoglow and a tint book. If you haven't, but would like them, please write to Sissons Brothers & Co. Ltd., Bankside, Hull.*

**"Plain and Pearl" obtainable only with**

**Siscomatte** plus **Siscoglow**

**RUBBERISED PAINT** **PEARL FINISH**

**OTHER HIGH-QUALITY DECORATING PAINTS MADE BY SISSONS**




**Hall's Distemper** After 50 years, still a leader in the field of first-grade water paints.

**Rapodec** With all the normal features of a first-quality P.V.A. Emulsion Paint, Rapodec's high emulsion/pigment ratio gives a fine sheen and great durability.

**Tungolac** Weather-Resisting Super Gloss Finish. Stands up to all conditions of climate and atmosphere, yet is equally ideal for interior use.

**Sissons' High-Opacity Undercoating** Another new product with above-average obliteration and excellent flow and hardness of drying.

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***from the start...***

***VIGERS***

***HARDWOOD***

***FLOORS***



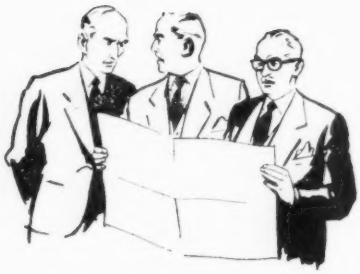
MEMBERS OF THE HARDWOOD FLOORING MANUFACTURERS' ASSOCIATION

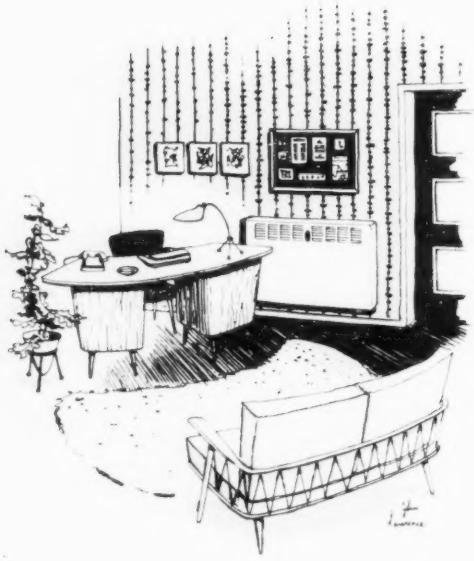
**VIGERS BROS. LTD.**

**LUDGATE BROADWAY LONDON E.C.4. CITY 2111**

## LET'S GET HEATED, GENTLEMEN!

**It's infuriating to have all one's beautiful ideas on interior decoration ruined by ugly, old-fashioned heating equipment. It's equally infuriating to the owner to have the newly decorated walls disfigured with dirty streaks.**





The solution is simple. Specify 'Copperad' Convectors. They will adequately warm offices, showrooms, private houses and flats without in any way detracting from the appearance.
Simply and beautifully designed, 'Copperad' Convectors are thoroughly efficient and require the minimum of attention.

*May we tell you more about Copperad Convectors ?*

WE ARE EXHIBITING AT THE
*Fuel Efficiency Exhibition*
NATIONAL HALL
OLYMPIA
LONDON
2-10 OCT. 1956

STAND Nº E7.

**Copperad**

**HEATING**

*the first name in heating and ventilating*

**Copperad Limited** HEAD OFFICE & WORKS: COLNBROOK, BUCKS.

Telephone: Colnbrook 521 (6 lines) Telegrams: Copperad, Colnbrook

**Scottish Office:** 30 Rutland Square, Edinburgh, 1 Telephone: FOUntainbridge 6067

**London Office:** 1 York St., Baker St., London, W.1 Telephone: WELbeck 1226/7

**Birmingham Office:** 1/7 Corporation Street, Birmingham, 4 Telephone: MIDland 1553

**Welsh & South Western Office:** Chesterfield Chambers, Westbourne Place, Queens Road, Clifton, Bristol, 8 Telephone: Bristol 3.3883

*Representatives at:* BELFAST · MANCHESTER LEEDS · NOTTINGHAM NEWCASTLE-ON-TYNE
*Also at:* AUCKLAND (N.Z.) JOHANNESBURG · LISBON BRUSSELS · TORONTO MELBOURNE



**WOOD—nature's best building material**

# CANADIAN White Pine...

**—a light-in-weight creamy white wood used extensively where long life is of greater importance than high strength**

## TYPICAL USES

Windows and doors, household fittings, cabinet-work, and general carpentry

Shipbuilding and boat building, engineering works, house construction, household appliances

Patterns, drawing boards and artists' supplies

Musical instruments

Match splints

Wood flour (used for manufacture of linoleum etc.)

## SPECIAL ADVANTAGES

Uniform in texture, works well under tools

Seasons easily, low shrinkage

Takes stains, paints and varnishes exceptionally well

Good nail-holding properties, does not tend to split or splinter

Exported as deals, boards, sidings, deal ends—and as waney and square timbers for special purposes

**FOR FURTHER INFORMATION**

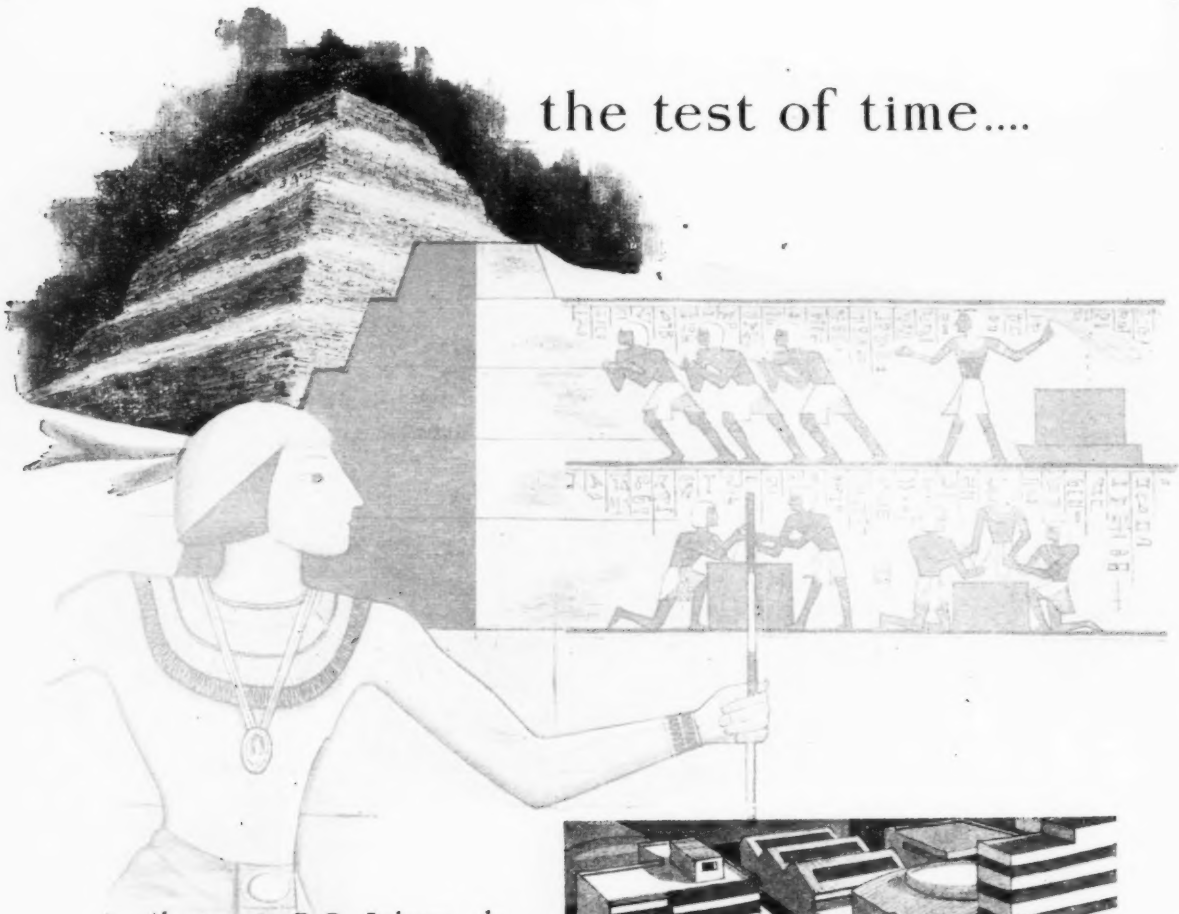
concerning Canadian woods contact The Commercial Counsellor (Timber), Canada House, Trafalgar Square, London, S.W.1.



TIM 5

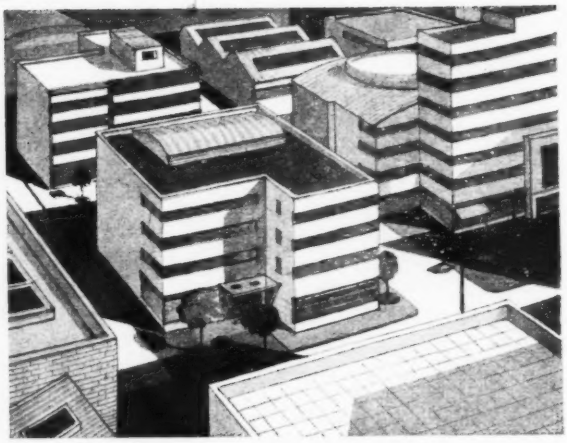
**Reproduced here is figure of Canadian White Pine**

**This advertisement is one of a series featuring Canadian Douglas Fir, Spruce, Red Pine, Pacific Coast Hemlock, and Western Red Cedar**



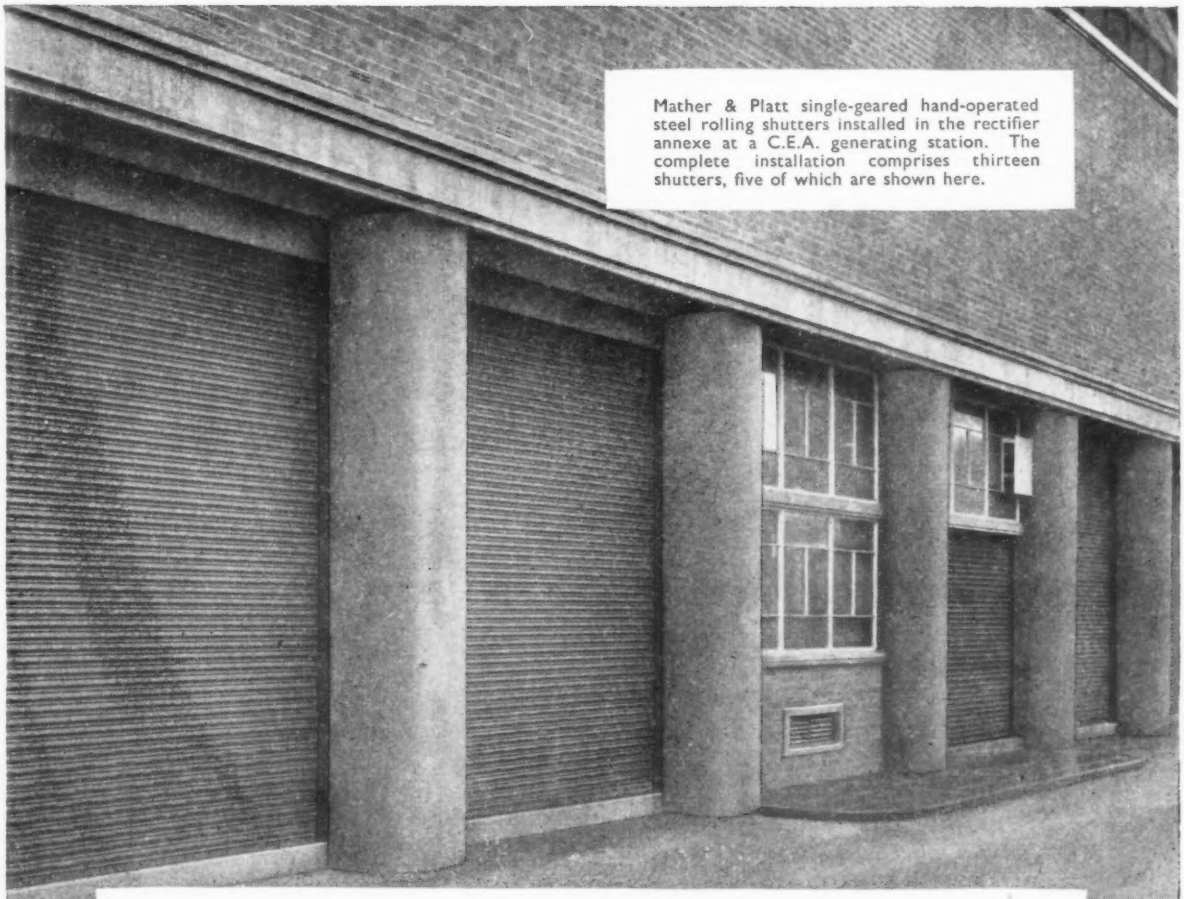
the test of time....

*About 2,780 B.C. Imhotep, the first known architect, designed the Step Pyramid at Sakkara. Men and materials change, but basic truths remain. Imhotep set a standard to all following his profession; they no longer depend entirely on stone, but call instead on us to provide new materials which will stand the test of time.*



universal

THE UNIVERSAL ASBESTOS MANUFACTURING COMPANY LIMITED
WATFORD · HERTFORDSHIRE



Mather & Platt single-geared hand-operated steel rolling shutters installed in the rectifier annexe at a C.E.A. generating station. The complete installation comprises thirteen shutters, five of which are shown here.

HAND OPERATED OR ELECTRICALLY OPERATED

**STEEL ROLLING SHUTTERS**

FOR ENTRANCES TO TRANSIT SHEDS, TRANSPORT DEPOTS GARAGES, POWER STATIONS, BOILER-HOUSES, WAREHOUSES, HANGARS AND NUMEROUS OTHER TYPES OF COMMERCIAL AND INDUSTRIAL PREMISES.

The high quality of materials and workmanship employed in the manufacture of Mather & Platt steel rolling shutters ensures reliability and long service, and the excellence of their design and construction is the result of practical engineering experience and continuous research during the firm's 150 years of existence.

Telephone: COLlyhurst 2321
Telegrams: Sprinkler, Manchester

Mather & Platt LIMITED

PARK WORKS
MANCHESTER 10

640

3 ST. JAMES'S SQ. S.W.1 TRAFALGAR 7833

THE
# DEMOLITION & CONSTRUCTION
COMPANY LIMITED

*Civil Engineering, Building and Public Works Contractors*



NEW OFFICE BLOCK FOR
MESSRS. GLYN MILLS & COMPANY
LAMPTON HALL, OSTERLEY

*Architects:*
*H. S. Goodhart-Rendel & Partners, FF.R.I.B.A.*

FWS

# HEARTH-WARMING FACTS FROM FLAVEL

**Essential data on five of the latest, most efficient heating units**



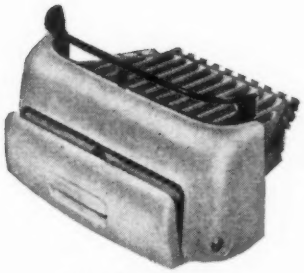
WHETHER you're specifying for a single dwelling or an entire estate, there's a Flavel appliance designed to fit almost any standard fireplace. Five of them are shown and briefly described on this page. For fuller details, you are invited to write to Flavels. Their Architectural Advisory Bureau is always ready to give expert advice and information about all Flavel appliances . . . solid fuel grates, boilers, cooker/water heaters, gas-heated clothes-dryer, water heaters, fires and cookers.



**SEE A**

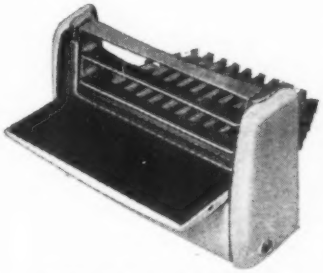
# FLAVEL

**FIRST!**



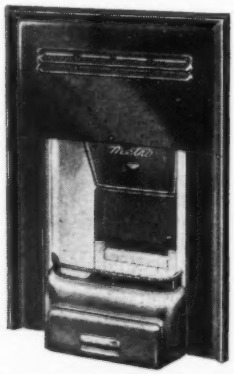
**THE 'NEWBOLD'**

Economical with all solid fuel, especially coke. Accurate fast or slow burning control; low construction ensures warm hearth. Cast iron construction: no costly fire bricks to replace. Available in 14" and 16" sizes for use as inset grates. In a wide range of vitreous enamel finishes.



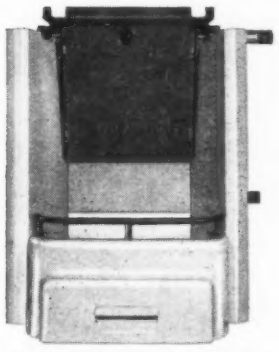
**THE 'FLAVEL SEYMOUR'**

New sixteen-inch safety grate suitable for use with or without back boiler. Fall door drops to show fire burning; fire intensity is controlled by opening or closing ashpit door. Closing both doors gives economical continuous burning.



**THE 'METRO' BOILER UNIT AND VENTILATING CANOPY**

Heats by radiation and convection. Cold air enters at sides and is heated and released through louvres. With dampers fully open the boiler unit will supply 10 to 15 gallons of hot water per hour. Output and fuel consumption can be controlled by using dampers.



**THE 'FULHAM' FINNED-BACK BOILER WITH 'NEWBOLD' GRATE**

Large-surface high efficiency type boiler providing 250 gallons of hot water per week and heating two radiators and towel rail of up to 35 sq. ft. combined radiation area. Requires no more space than a normal open fire with standard 9" x 9" flue.



**FLAVEL FOR SOLID FUEL COOKERS, TOO!**

*

**THE NEW 'COTSWOLD' COOKER/WATER HEATER**

Three hotplates—fast boil, boil and simmer. Roomy main oven with automatic interior light and 'slow' oven for warming, etc. New firebox design prevents dust escaping, gives maximum fuel economy. Provision for left, right or centre boiler connections; alternative back or top flueing permits flush fitting.

SIDNEY FLAVEL & CO. LTD., 1 NEWBOLD TERRACE, LEAMINGTON SPA. TELEPHONES: (Sales) 3091 and 8700. Telegrams: FLAVELS

For full details of the heating system mentioned in the article on

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

**"DYCHENS"**
**New Road, Digswell**
**Herts**

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

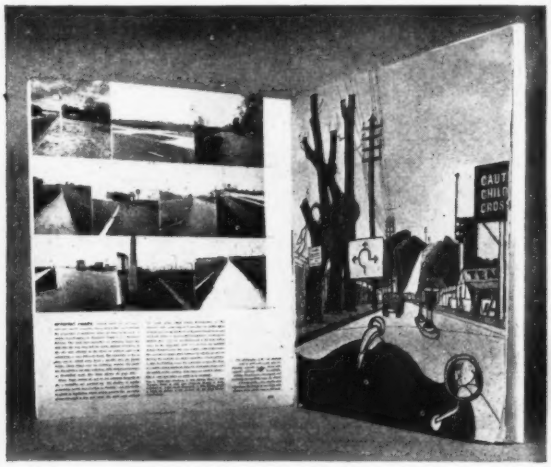
apply to

**AGA HEAT LIMITED**
**Orchard House,**
**Orchard St., London, W.1**
Telephone: Mayfair 8454

OUTRAGE OUTRAGE OUTRAGE OUTRAGE OUTRAGE

***2nd impression***

The June 1955 special number of the ARCHITECTURAL REVIEW went out of print immediately. It is now, in response to great demand, again available in book form: OUTRAGE by Ian Nairn.



*Praise in the national press is unanimous.*

'. . . a devastating and appalling photographic indictment . . .' DAILY MIRROR

'. . . We support their protest. The public conscience should be aroused to stop this outrage . . .' DAILY HERALD

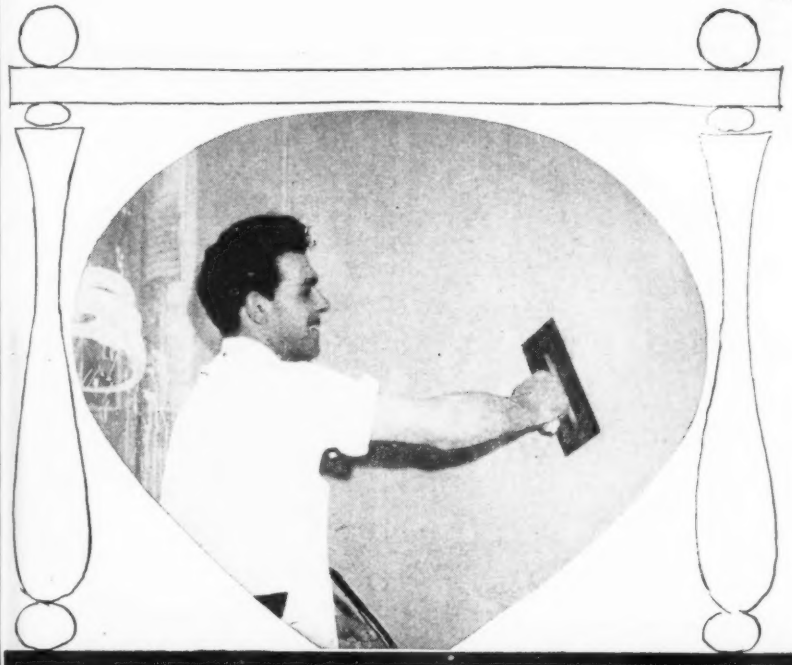
'. . . Well worth the attention of anyone who cares about the good looks of England . . .' MANCHESTER GUARDIAN

'. . . a fighting manifesto ending with advice that, if applied, could lead to better things . . .' TIME & TIDE

'. . . the most damning illustrated indictment . . . that has yet been published . . .' THE SPECTATOR

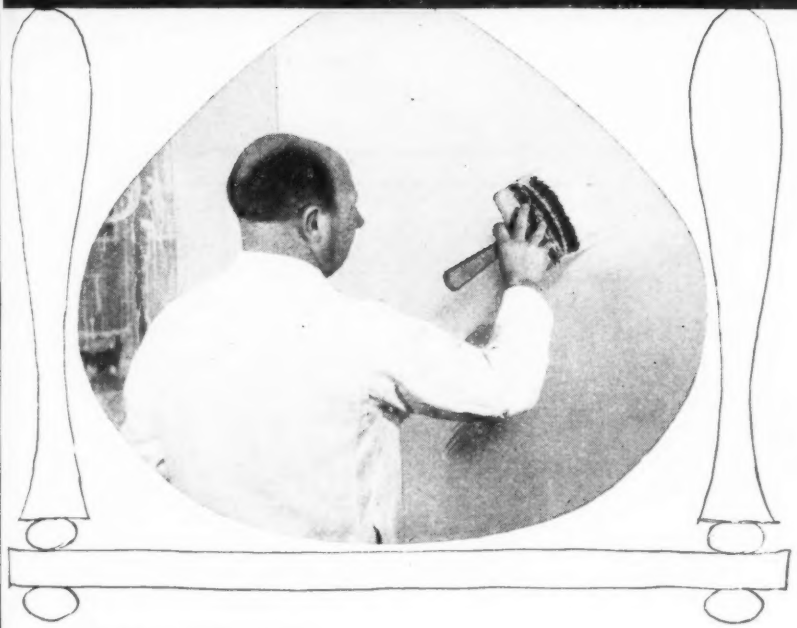
OUTRAGE *size* 12⅛ *in. by* 9¾ *in.* 96 *pages including over* 440 *halftone and line illustrations.* 12*s.* 6*d. net, postage* 1*s.* 3*d.*

THE ARCHITECTURAL PRESS,
9–13 Queen Anne's Gate, Westminster, S.W.1



The appreciable amount of moisture contained in newly plastered interior walls together with their alkaline action has previously prevented early treatment except with non washable or size bound distempers. Normally the delay before paints can be applied extends up to several months. Premature treatment causes poor adhesion and subsequent blistering, the result of moisture trapped between wall and paint, if the plaster is alkaline, saponifacation.

# Painting new plaster within 24 hours!



In presenting KINSHEEN as the complete answer to this problem, Sanderson's do so with every confidence. Searching laboratory tests have established KINSHEEN as of outstanding porosity, allowing the free passage of moisture through the coat to the paint surface, whilst remaining unaffected by free lime and alkaline. Please write to Sanderson's, the sole manufacturers, for full technical information.

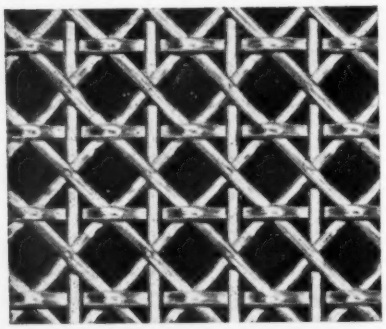
Facts about KINSHEEN

*Appearance:* Pleasing, flat satin, with subtle sheen. *Application:* By brush, roller or spray. *Coverage:* Up to 200 sq. yds./gallon. *Colour:* 28 Pastel Shades and White. Also supplied in P.I.C.R.C./R.I.B.A. 101 range. *Drying:* From 1 to 3 hours dependent on conditions. *Resistance to Washing:* Will withstand repeated washing and even scrubbing with hot water.

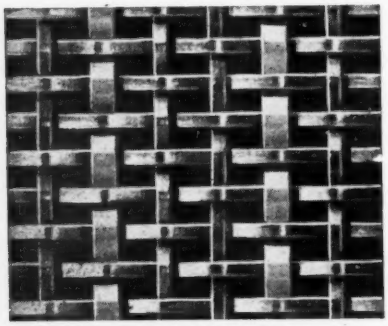
**KINSHEEN** PLASTIC EMULSION PAINT

Made by: A. SANDERSON & CO. LTD., HULL. Specialists in Fine Paints.

SAN/641



METALACE (Pattern No. M1006)
Produced in rolls of 25ft. to 100ft. by 2ft. 11in. wide.
Please ask for List No. AJ875.



RIBBON WIREWORK (Pattern No. 1357W)
Produced in flat panels to any size.
Please ask for List No. AJ875.

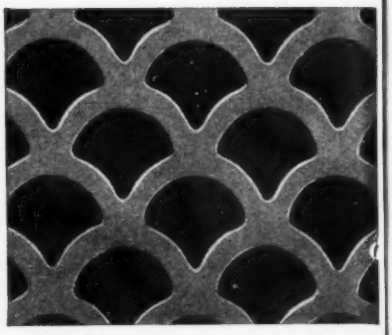
# Decorative and Durable

For effective screening whilst allowing a free circulation of air, Harveys make a group of products which ensure harmony with any decorative scheme. The patterns illustrated are representative of three comprehensive ranges, available in a variety of metals and finishes.

**'HARCO' PATENT METALACE RIBBON WIREWORK**
*and*
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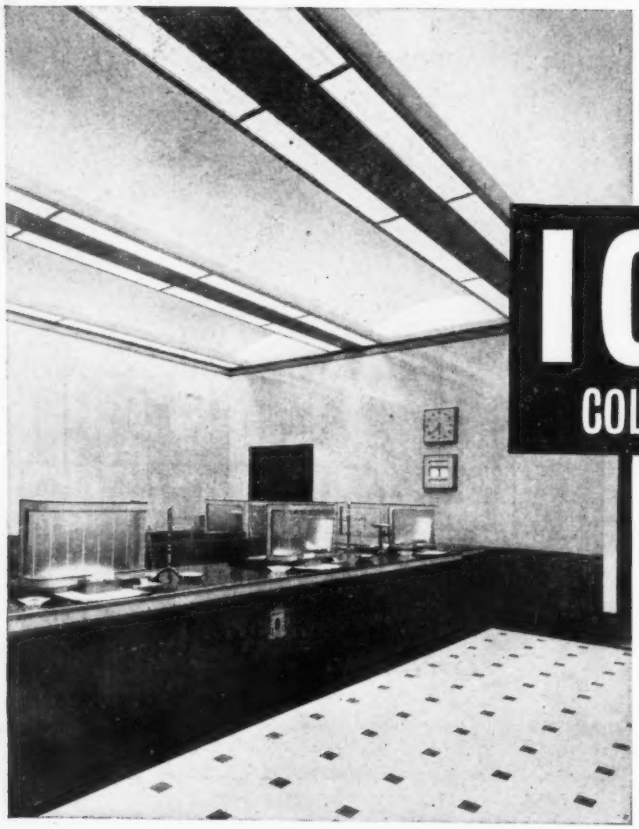
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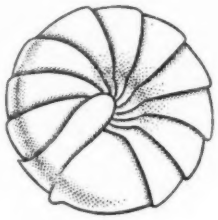


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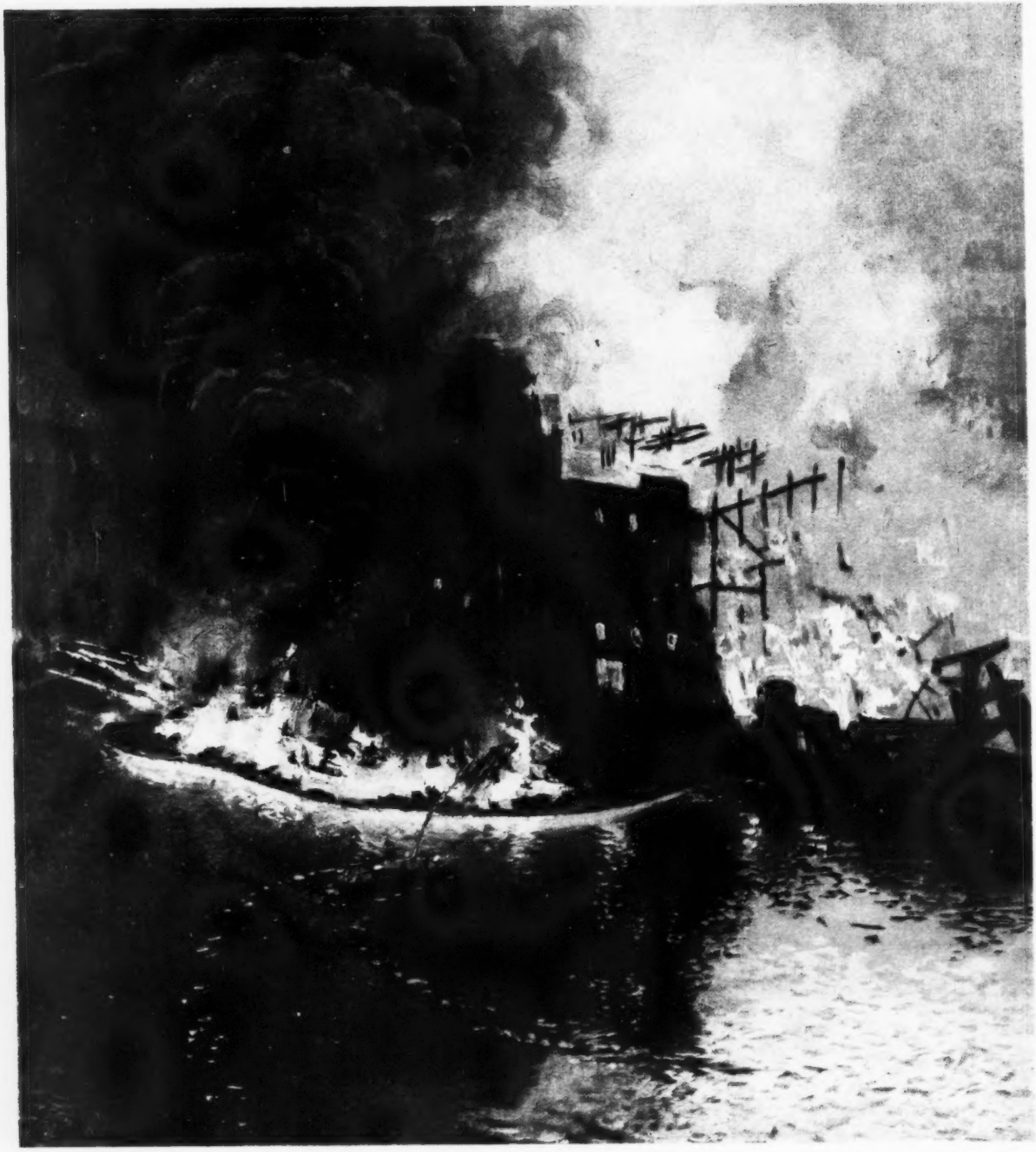
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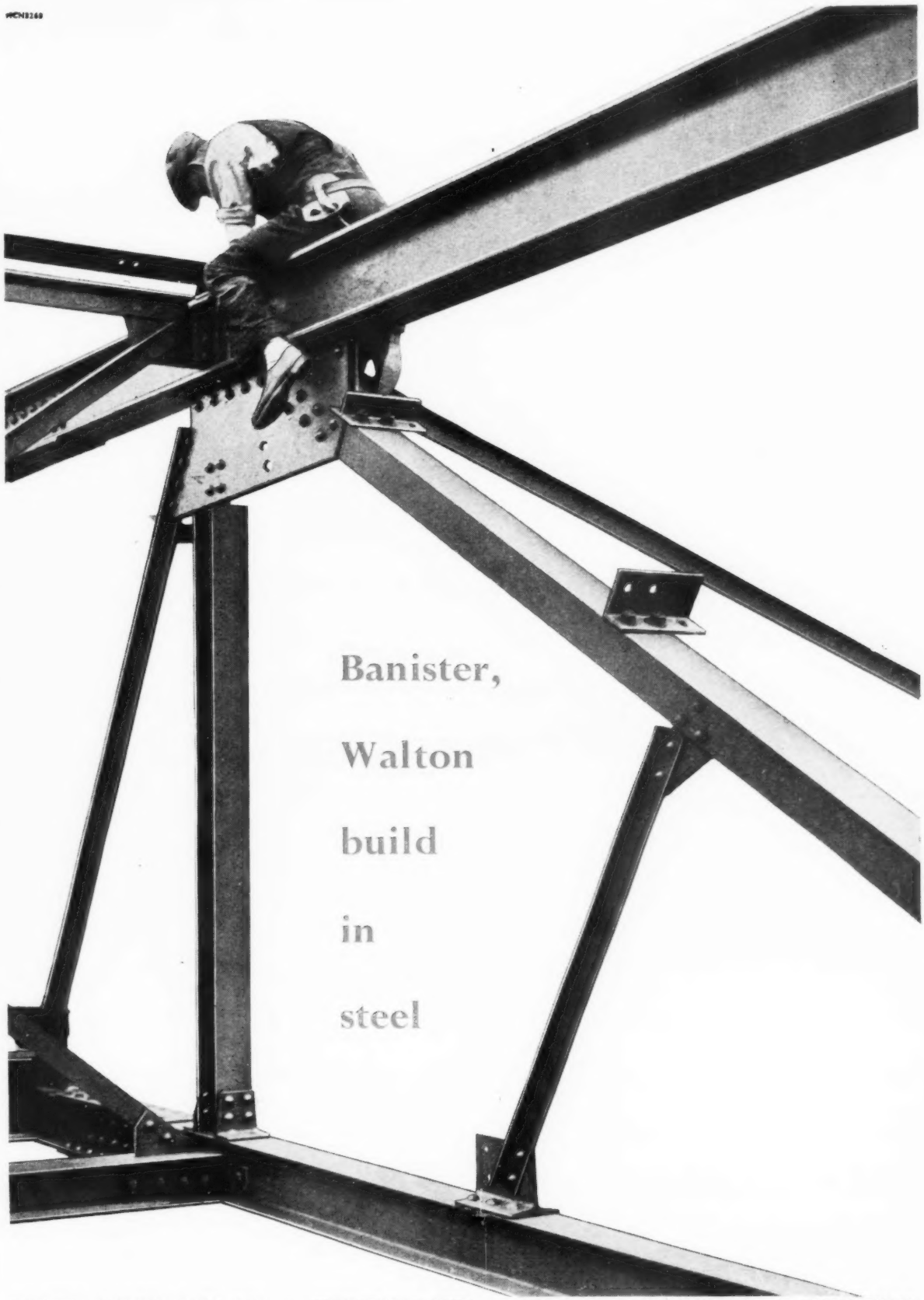
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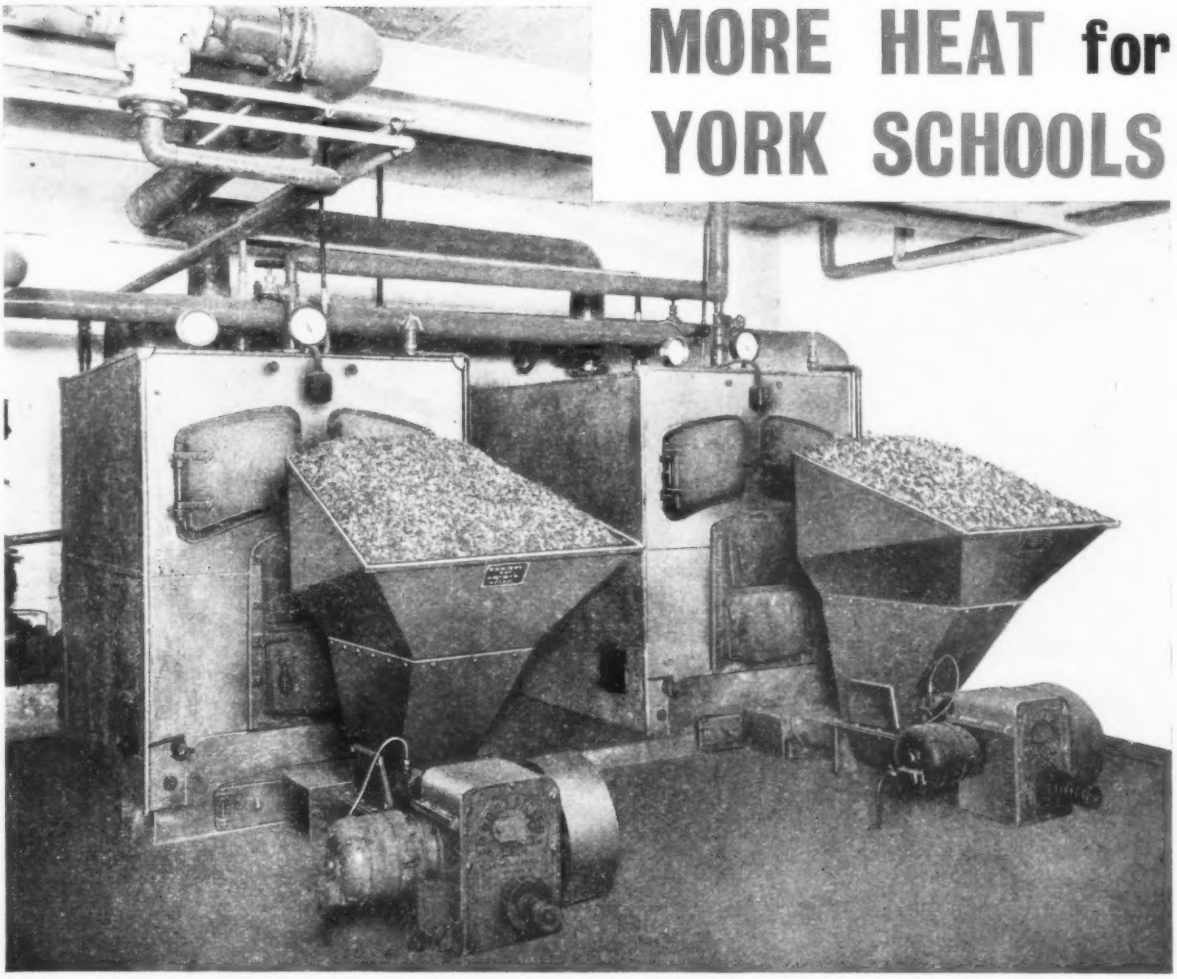
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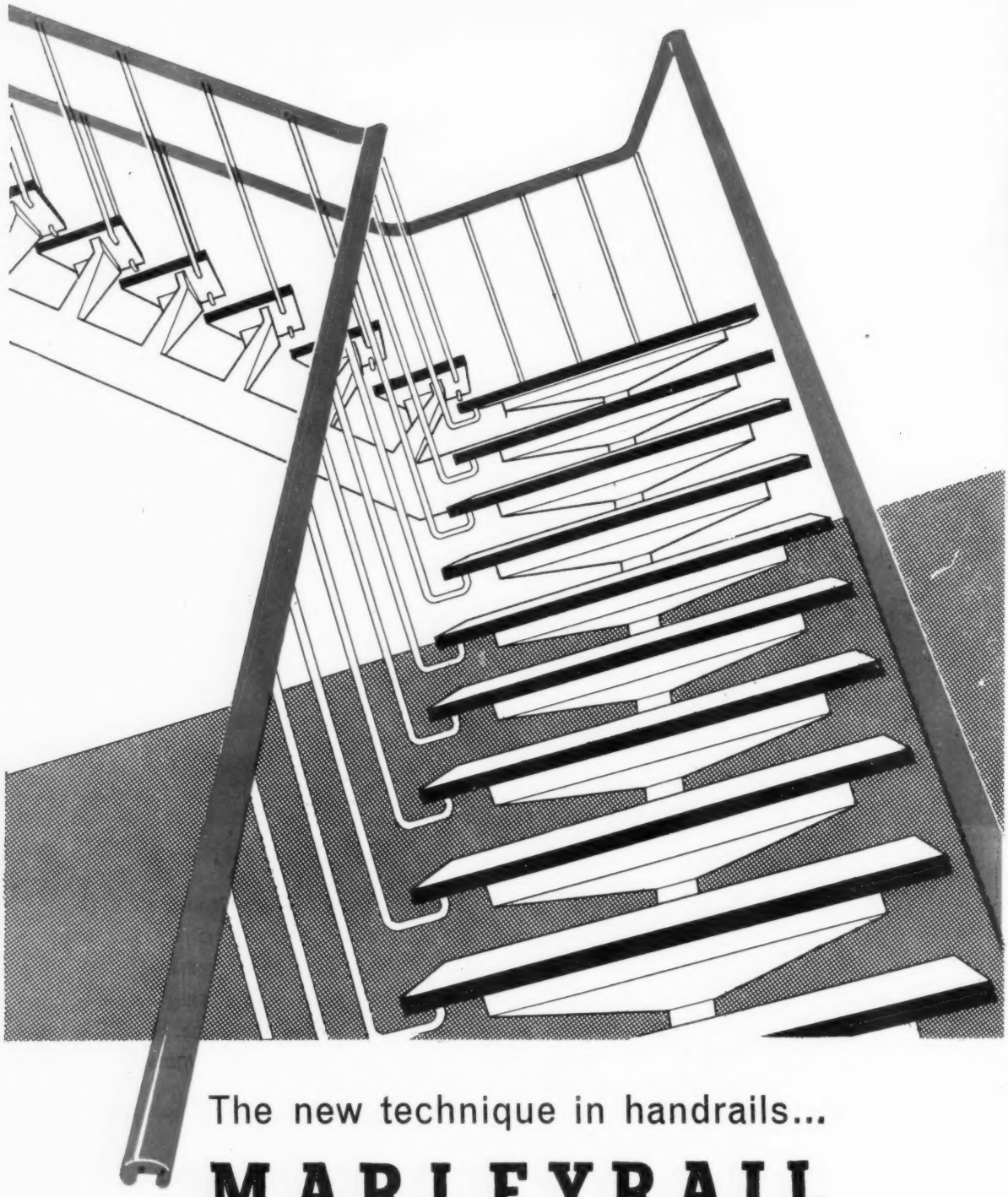
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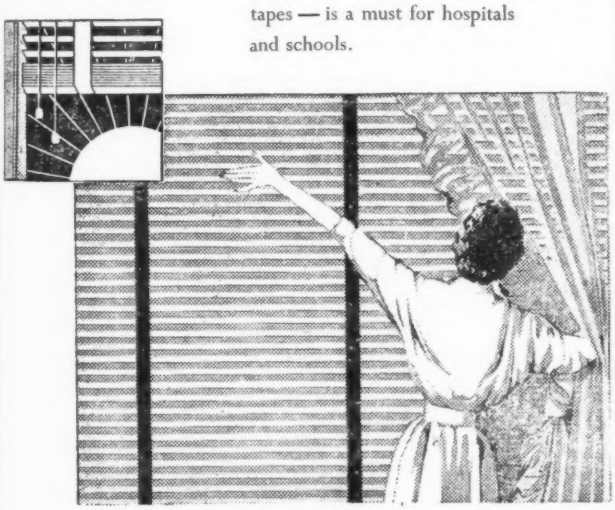


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THE ARCHITECTS' JOURNAL

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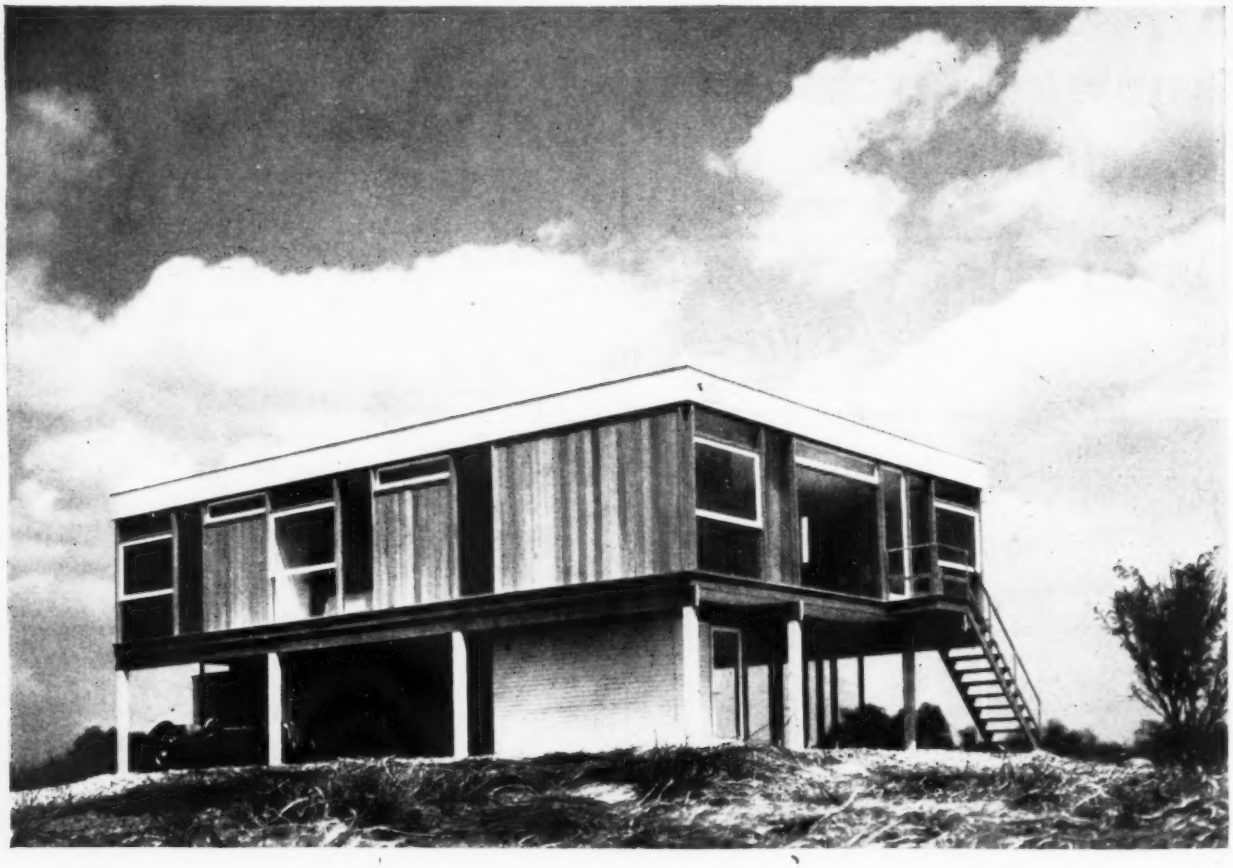

NOT QUITE ARCHITECTURE

## *THE UNSOCIAL HOBBY*

The triumphs one sees at the Model Engineer show at the Horticultural Hall are a long way off the sort of thing a junior draughtsman knocks up nowadays with hardboard samples, cellophane and bits of tinted sponge. Students of thirty years ago were told that a judiciously-timed perspective might "inflame" a client into making up his mind, but nowadays the model does this job, and can also be used to find out how the rooms will all be lighted all through the year. But all this has a purpose, and is *not* what would be called model-making by the purists, who are happy spending thousands of man hours in meticulously reproducing the internal structure of a seventeenth century frigate and then hiding it all away inside the planking. The juveniles buy kits and make aeroplanes and speed boats, and then *play* with them, but the true model maker enjoys the making and tends to lose interest when it's done.

*

Why? one wonders. Escapism, insomnia, nagging wives? Too easy. The brainworker wants to relax by using his hands? Then what makes an engine driver spend a week of his holiday trundling children twenty yards back and forth on 7½ in. gauge? There's the interest of seeing what others have made, and in comparing notes on ways and means. "I took L.B.S.C.'s standard 0-6-0 tank but I gave it Walschaerts valve gear to make it more interesting." The whole mystique is an industry in itself, with its own press (almost as numerous as building) and suppliers of bits, pieces and tools, though of course many a true model maker starts by building his own lathe. But it is a solitary habit, evening after evening, machining and hand-



# *House of Ideas*



*Vogue*, they say, is only read by people who wish they were as well-dressed as the people who *don't* read it. But its sister magazine, *House and Garden* has come to serve a very different function, and it is by no means true to regard it as *Vogue's* architectural equivalent. *House and Garden* has come to be the most important—certainly the most influential—medium of communication between the architect who designs houses and his most possible market—among moderate, middle-class, *Observer*-reading, professional men, with educated wives. It forms taste, it circulates ideas. Architects may wince at its penchant for plant pots, its winemanship, but they must always be thankful that it resolutely supports the ideal of an architect-designed contemporary house as the right thing to build. Its advocacy of that ideal takes new force from the *House of Ideas* (above) which appears in the current issue and at the Tea-Centre (until September 18), and will be continued in its next. Designed by Kenneth Capon of ACP, and existing in model form and mock-ups of various rooms, it may or may not draw applause from you, professional reader, as a piece of architecture; but it will circulate to a nation-wide readership ideas about plan and section, materials and methods that they might never see otherwise. What is more, it will circulate them in a form, with coloured photographs big enough to see, that is far more convincing than acres of scribbling with 4H pencil on tracing paper, or the most elegantly-rendered perspective. They show what an open-plan house will feel like when crammed with domestic bric-a-brac such as even the best-regulated home tends to accumulate; they give a sense of the way of gracious living that goes with continuous glazing and venetian blinds. They are putting *you*, with your ARIBA, before your public as a man with an attractive product to sell. The view left shows the kitchen (the free-standing, mosaic screens, cooker and refrigerator) from the central sun-deck. Above, the exterior. Further illustrations, page 296.

finishing and tapering one section connecting rod from stainless steel and then fitting brass bushes with proper oilways each end. And then? You make the other one of the pair in joyous concentration, with the ultimate ecstasy when not only both fit, but when they're interchangeable as well.

*

For all of us there's a fascination in a beautifully made miniature, but most of us are too extraverted to be content with just looking. Watch uncles at the Science Museum, pushing nephews firmly away from the compressed air buttons. The radio-controlled cabin cruisers on the Round Pond, the 50 m.p.h. foot-long cars, the aircraft circulating waspishly round a teenager—all these are comprehensible and fun. For the true model maker they are really not quite. "Measure twice and then cut once" is the shipwright's slogan, and simple shelving or the replacement of blown fuses is easy enough for you and me. Only when we try to file flat or plane truly square do we find we're all left-handed thumbs. For the modeller anything less than ±0·001 is slipshod: either you can or you can't.

PHILIP SCHOLBERG

## FILE THIS WEEK

**The Industry.** This week Brian Grant writes about a new insulating jacket for hot water cylinders; a range of copper radiators; a sealing and preserving compound for timber, and a new built-in refrigerator.
page 300

**Information Centre.** Two books are reviewed; the first, by Sylvia Crowe, is called *Tomorrow's Landscape*, and is published by the Architectural Press. The second is an American publication, *The Art of Home Landscaping*. Also reviewed are a British Standard on pitch-impregnated fibre drain and sewer pipes and two articles from American magazines, one on a new type of shear connector and the other on the use of concrete walls in a steel-framed building. .. .. .. page 301

**Timber Specification.** John Eastwick-Field and John Stillman continue their series of articles on the design and practice of joinery. This week they describe how to specify moisture content and give specimen clauses for the other materials which must be included in a joinery specification.
page 302

**Building of the Week.** This is a house (published with a cost analysis) designed by an architect for his own occupation.
page 311

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* To preserve freedom of criticism these editors, as leaders in their respective fields, remain anonymous

## The Editors

# PLANS FOR A COFFIN

MINISTERS, senior civil servants, and local authorities—indeed, all men of common sense—should study the sound advice given by this country's greatest living planner, Sir Patrick Abercrombie, in a Third Programme talk last week. It was a triumph of the BBC's to have obtained such a masterpiece of reasoning which related together so many of the important points of previous speakers in the "Prospect" series, and it was a stupid failure of the daily Press that so little reference was made to a talk whose subject concerns everyone.

As was to be expected, Sir Patrick has no use for our present planning set-up. He pointed out that although, thanks to the Silkin Act, the number of planning authorities has been reduced to the more manageable proportions of county councils and county boroughs there is, today, less *real* regional planning than before. There are simple reasons for that. Most of the old historic counties no longer represent geographical units—such as the conurbations—and there is no genuine co-operation between the authorities themselves. Sir Patrick was unimpressed by the so-called consultation between authorities which does take place, and not unnaturally, because planning agreements between local authorities are bedevilled by local politics and "empire-building" on the part of councils and individual officers. Scathingly he described the Lancashire county plan as "a blanket with seventeen holes burnt in it by the county boroughs." And although Lancashire may be the worst example of this dismemberment there are plenty of other instances.

Sir Patrick proposed an alternative planning machinery for the existing county and county borough set-up. He recommends a system of three-tier administration and planning. At the top, National planning, by means of a central commission. This commission would deal with main trunk roads, railways and air transport; the location of basic industries and population, agricultural and forest reserves. Next would come Regional planning. The Regions would have executive powers and be based on geographical areas—he instanced Tyne and Tees-side; Cardiff, Swansea and Bristol; Portsmouth, Southampton and Bournemouth; and also the isolated large cities, Norwich, Hull and Plymouth, which would be closely associated with the neighbouring county areas.

The Regional planning authorities would lie thickest, however,

and be most closely co-ordinated by the Central commission, in the area which lies between Brighton and Blackpool. This area, known to planners as "the coffin," contains five of the six main urban groups of England and Wales and nearly two-fifths of the population. It is in this area, Sir Patrick pointed out, that regional planning, tackled on the proper scale, might make the twin policies of decentralization and redevelopment work sensibly, as well as enabling the preservation of agricultural land and the avoidance of sporadic building. Lastly, there would be Local planning authorities, which would be concerned with the planning of the smaller towns and which would, presumably, enable a greater amount of careful three-dimensional planning to take place—the kind of planning which might save the country from more Subtopia. Of course, those members of central or local government who see in these comprehensive and logical proposals by Sir Patrick (in part outlined by a Boundary Commission) any lessening of their own authority will oppose Sir Patrick's ideas to the end. It can only be hoped that public opinion, if it ever gets to hear of them, will demand such changes, and that sufficient enlightened men remain in central and local government to appreciate the wisdom of them and have the power and the ability to bring them about.




THIS WAS THE WEEK BEFORE LAST

It seems fairly clear that *This Is Tomorrow* has got professional art critics in a spin—one declined to notice that any architects had taken part in it, another failed to notice the presence of any painters—and in general, the absence of gold frames (to prove that things are pictures), plinths (to prove that things are sculpture), and doors (to prove that things are architecture) has been an unwelcome innovation. The one notable exception is Basil Taylor, who has taken two weeks over the show in the *Spectator*, and has made a very good fist of it.

*

The BBC, however, have overdone things in a big way, giving it thirty-five minutes of air-space on the Third, and then cramming those thirty-five minutes with so many itsy-bitsy comments and observations, by no fewer than thirteen speakers, that the result was just salami (only no garlic). Ian McCallum, as a kind of wandering compère, tried to extract some flavour from the various ingredients as they shot past, sometimes for the second or third time, but the task was beyond human competence, and hardly any of those speakers whom ASTRAGAL has any acquaintance with seemed to be doing justice either to themselves or their ideas. A nice, prejudiced talk by someone who hated the whole thing might have given a better impression of what was going on.

COUNCIL FOR AVOIDING ARGUMENT

At the Radio Show this year the good word is *transistors*, and the two standard shaping-up ploys are (*a*) if your interlocutor is enthusiastic about them, say "Ah, yes. But they won't replace the good old-fashioned valve just yet" and (*b*) if he has never heard of them, "Don't you realise that the days of the thermionic valve are numbered?" And in either case press on to draw attention to the fact that you know that germanium is a semi-conductor.

*

All this will save you getting mixed up in the perennial argument about whether the design of cabinets is getting better or worse. For those who do find themselves involved in this one, through careless conversation-steering, here are a couple of escape ploys. Head smartly for the RCA stand where the sets are just like the ones in the ads in *Life*; this will tie one class of opponent in knots, because they are quite CoID to look at, and must therefore be *good*, but designed by a famous American stylist, and must therefore be *bad*. Also "Continental Styling" is ten-a-penny this year—you know, black mahogany polished until it has a sort of patisserie glaze on it, and picked out with two tones of gold trim. This is very useful for shutting up those who claim that good design comes from Italy, France, Germany, Holland, etc.

*

And don't miss the Robot arm on the Mullard stand.

UNCAGED

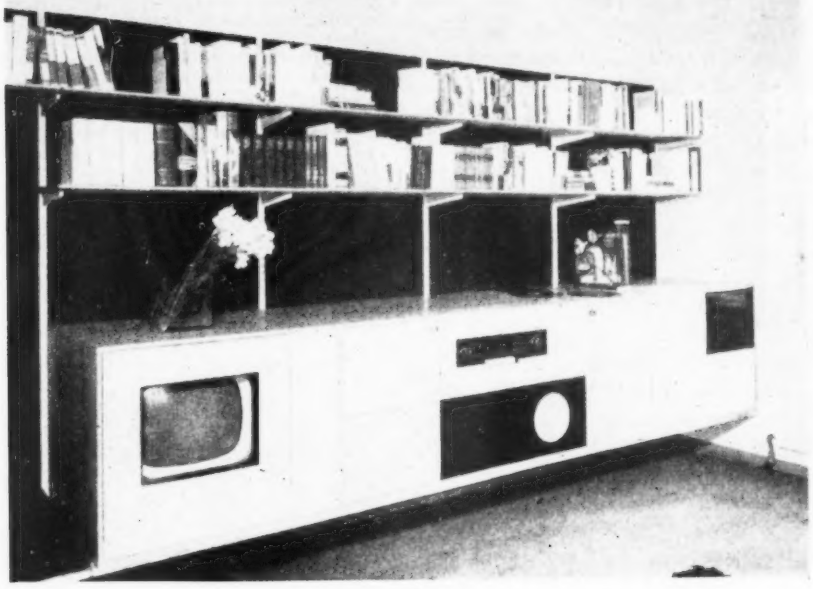
Some time ago the *Architectural Review* criticised the way in which St. James's Park was being spoilt by thoughtless planting, bad fencing and execrable trim. Slowly the park is being improved. Shortly after the article



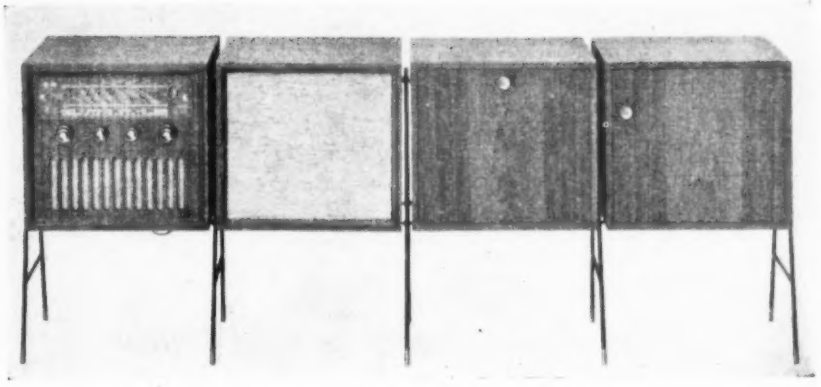
*A new fence for St. James's Park.*

appeared a criticised avenue of standard rhododendrons was removed. Now, ASTRAGAL is pleased to report—see photograph above—the fencing has been improved. Old barricades of







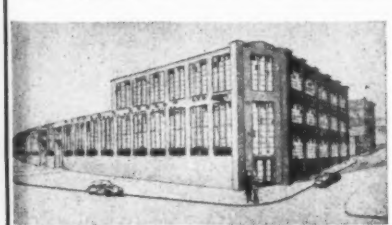


*Worthy endeavours have been made, not always very successfully, to relate radio equipment with normal domestic furniture in this year's Radio Show at Olympia. Above left are two examples by Pamphonic of fitting high fidelity units into standard furniture (wall unit and sideboard by E. Gomme Ltd.). However, the two examples from Sweden, above, show that Scandinavian designers can still teach us a lot about disciplining radio and gramophone equipment. Both examples of flexible unit equipment were on view at the H55 exhibition and are reproduced from the Swedish magazine* Form. *The free-standing units consist of high-fidelity boxes, radio-gram and record case. The wall units include in addition a TV set.* ASTRAGAL *repeats his plea of former years for someone in this country to take up, and improve on, this sensible idea.*

rails, wire-mesh and evergreen hedging have been swept away and, as this view of Birdcage Walk shows, only a low rail checks the visual flow from the road to the heart of the park. Full marks to the MOW.

A JOURNAL OF INDUSTRIAL ACHIEVEMENT

The above phrase forms the sub-title of the house magazine of no less a firm than Fisher & Ludlow Ltd., of Birmingham, and half a dozen other important places. Part of their achievement, in due course, will be the building shown below, which is captioned in the magazine as ". . . the Architects' design for the new factory extension."



*A proposed extension to one of Fisher & Ludlow's factories in Birmingham*

*

"We are sure that ASTRAGAL will be interested in the architectural progress taking place in Birmingham," writes an unkind spy, anxious to ensure that this columnist shares his hag-ridden nights. "The new building, to be erected on the site of the old Victorian Bordesley Palace, appears to us," continues my correspondent with evident relish, "to be a most remarkable effort. Apart from the obvious complications of floor levels . . ." But there is no need to quote further. The design is, for an architect, a remarkable effort, but it has not, surely, the visual qualities one expects in a building designed for a firm of Fisher & Ludlow's standing.

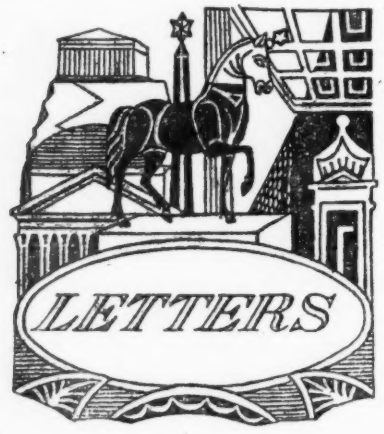
ROYAL PARTICULARS

Three new guides give very intelligent coverage in pretty pocket format to Carisbrooke Castle, Hampton Court and Kew Palace, but they also raise some curious thoughts about visual presentation. The Carisbrooke one has a cover that looks as if it had been designed for the dimmer elements in the pre-war charabanc trade, and an inside that tends to relapse into artist's impressions of Saxon infantry and so

Carisbrooke Castle, prepared by COI for MOW; Hampton Court Palace, by G. H. Chettle; Kew Palace, by John Charlton. Published by MOW 1s. 6d. each.

forth. The Kew booklet has covers, and several vignettes inside, by Eric Fraser, and looks as if it was aimed at the sort of genteel egg-head who would go to Kew and make a point of *not* looking at the botany. Only the Hampton Court effort is in what one would normally regard as the MOW style—neutral, prim, unaffected and unexciting. What goes on? If MOW are, with gentle cynicism, tailoring their presentation to what they know about the actual public that these various monuments draw, then marvellous—but in that case the Carisbrooke booklet needs to be more vulgarised (more about Charles I, for instance), and the Hampton Court one needs drastic re-styling. But if they aren't then will they please make up their minds how they want to look, and stop vacillating and fly-catching.

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*Gordon McLachlen,* of the Nuffield Provincial Hospitals Trust

## Guarantees Necessary

SIR,—I was extremely interested to read your editorial under the heading of "A Threat to Design" (AJ, August 23). This is a case of history repeating itself. Some 30 years ago I, together with my Partners, after receiving notice from the Asphalt Contractors Association that they would no longer give a 20 year guarantee took the matter up very strongly with them, and stated that owing to so many failures in asphalt roofing at the end of 20 years we would be compelled to use some other form of covering if they were not prepared to give this guarantee. They refused to do so and we turned to the use of felt roofing covered with tarmacadam, and it now appears that the felt roofing contractors are also refusing to give a guarantee.

In my opinion, based upon a fairly long experience of this type of roofing, it is absolutely essential to obtain a guarantee of at least 20 years before using any kind of asphalt or felt roofing. The reason given when I previously took this matter up with the Association was that from the accountancy point of view it was not a practical proposition to keep the books open for 20 years. My reply to this is that I have experienced so many failures through faulty material and workmanship I consider that to safeguard our clients and ourselves a 20 years' guarantee is essential and very strongly support your leading article in the matter.

STANLEY MILBURN.

Sunderland.

## Designing For Germans

SIR,—Looking at your photographs of the Berlin Housing Exhibition (AJ, August 16) I side with ASTRAGAL'S hints, however premature they may appear to those fair-minded who can wait to condemn.

Judging from the designs of the international contributors to this exhibition, it would seem that these architects have taken little account of the present confused psychological situation of the country, nor of the obvious fact that a lead is expected from them, a lead which others in Germany can take up. A lead which should support the re-awakened modern movement, which would convince the German public emerging from the days of neurotic Dictator's classicism and gazing at People's classicism across the boundary, which divides their town, that modern architecture is right.

Admittedly the foreign contributors were invited because of their work; but is it enough that in such a difficult physical and psychological climate they should merely repeat themselves? I suppose the various buildings of Le Corbusier, Gropius, Niemeyer, etc., are typical of the manner which gained each of them world reputation. I am sure they are all right. However, as ASTRAGAL said, they could stand with even better right in the countries where these architects practise.

What are the Germans going to make of it? These buildings will have to stand up to fierce comparison, yes, comparison even with the monstrosities of the Stalin-allee. Frills and furbelows on either side will be compared, mannerisms and idiosyncrasies western version set against mannerisms and idiosyncrasies eastern version. Cornice and pilaster will fight against capricious pilotis and triangular lift towers.

In Berlin there stood, also, some of the best buildings of the *avant garde* of modern architecture. This ought not to be forgotten. Nor that "Interbau" cannot possibly exercise the same impact upon the world as the 1927 Weissenhof Siedlung. It is to set a standard in *Germany*, to convince the *German* public.

With so much expected of them directly or by implication, the foreign contributors face a great responsibility. Modern architecture has twice gone down in that unhappy country. In recognition of this the buildings designed by foreign architects in this exhibition should have been designed for *Germans*, taking account of their own problems, climate, habits and emotional psychology—they are a heavy-minded race—and showing that modern architecture can provide the solutions par excellence for their requirements. Do they?

Has Le Corbusier forgotten that in spite of extended publicity his Weissenhof houses had next to no influence over there and were dissected by critics; does Niemeyer realise that his German counterpart Scharoun, too, is a master in the invention of forms that require much justification in German eyes?

Thus it appears. It is easier to express oneself, to repeat oneself, to solve one's own countrymen's problems. Alas! A greater effort, a more intuitive approach, an attempt to understand better the climate physical and emotional in Germany, a clearer realisation that these buildings are pre-eminently for *Germans* might have added considerable weight to the cause of modern architecture over there. As it is one can but hope.

WALTER SEGAL.

London.

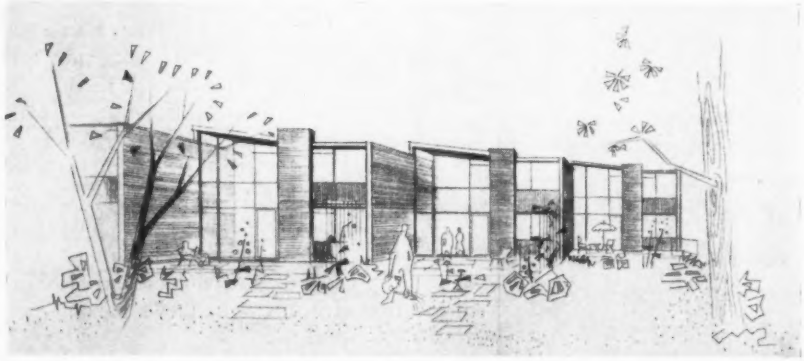
SIR,—I read with interest your article on the forthcoming International Exhibition in Berlin (AJ August 9) but I feel that you did not make clear the fact that one of the objects was to invite a prominent architect from each competent country to contribute.

In fact this country is represented and it is a pity that you apparently think it not worth a mention.

TREVOR HAWKES.

London.

[We certainly do think it worth a mention. The mistake was made by the Publicity Department of Internationale Bau-ausstellung who included no reference to a design by a British architect. However, we have since learnt that Messrs. Yorke, Rosenberg & Mardall have been commissioned to design terrace houses in the Hansa District in the Berlin Tiergarten. A sketch of these houses is shown below.—EDS.]



*Housing for the Hansa district of Berlin, designed by F. R. S. Yorke, of Yorke, Rosenberg and Mardall, to which our correspondent Trevor Hawkes refers in a letter above. The houses all have garages and cellars, but other accommodation varies. Reading from left, the first and third houses have four bedrooms, bathroom, kitchen and combined living-dining room. The second and fourth houses have three bedrooms, bathroom, kitchen, and a two-storey height dining-living room.*

## Harlow's Health Centre

SIR,—The information in your article "Health Centre or Group Practice Clinic" in the JOURNAL for August 16, 1956, is somewhat out of date in the reference to the "group clinics at Harlow New Town." Some considerable time ago the Nuffield Provincial Hospitals Trust provided for the building of three modern health centres which have been in use by both general practitioners and the local health authority since they were officially opened in October, 1955. These centres, it is felt, combine the best in modern architecture with economy in cost, and the average capital cost, including cost of sites, fees, etc., is less than two-thirds of the figure of £35,000 which you say is the maximum which the Minister of Health advocates to the London County Council for the building of health centres.

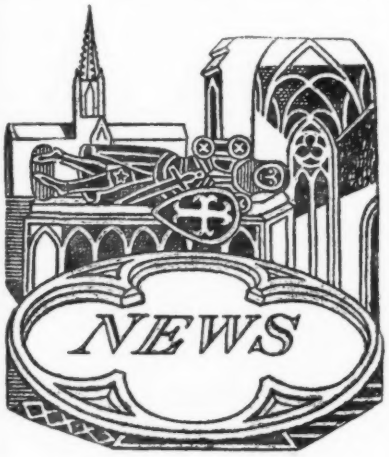
The Trust has also agreed, in order to complete the provision for the New Town, to finance the building of a further three health centres and two industrial health centres, not, I may say, as adaptations of semi-detached houses, but specially designed for the purpose.

The architects were: for Nuffield House, Messrs. Booth & Ledeboer; for Sydenham House, the Harlow Development Corporation with D. L. Dyer in charge; for Osler House, the Corporation with A. McCowan in charge. The architects for the Harlow Development Corporation are F. Gibberd, architect-planner and Victor Hamnett, executive architect.

More complete information about the centres is given in an article "The Health Centres of Harlow, An Essay in Co-operation" in the *Lancet* of October 22, 1955.

GORDON MCLACHLAN.

London.




## IMPERIAL COLLEGE

### *Architects Appointed for Expansion*

Messrs. Richard Sheppard and Partners have been appointed as architects for the Imperial College scheme for expansion in Princes Gardens. The terraces on the north, east and south sides of the Gardens, which lie to the east of Exhibition Road and about a hundred yards from the College buildings, have recently been acquired by the College. It is hoped to proceed immediately with the development of the east and south sides. New halls of residence, to include some 480 study-bedrooms, will be provided in a new building on the east side and in half of a new building planned for the south side. The remainder of the building on the south side will provide certain common-room and refectory facilities originally planned for the central College site, but transferred to Princes Gardens under the revised building plans which allow the Collcutt Tower to be retained as a free-standing campanile.

## COID

### *Designers' Records at The Design Centre*

A special display, to illustrate the work of the COID's Record of Designers, is to be held at The Design Centre from September 10—29.

The employment of trained designers, states the COID, is essential to a progressive design policy and to this end the COID offers industry, in the Record of Designers, an extremely useful service. The aim of the Record, which has over 2,000 designers on its books, is to provide the manufacturer who has a design problem with a short list of possible consultant or staff designers with special qualifications for the particular job.

The exhibition shows actual examples and photographs of some of the work done as a result of the Record's recommendations over the last few years. Three typical products—a refrigerator, a kitchen cabinet and a range of biscuit packs—will be illustrated in case history form, from the manufacturer's initial approach through the designer's sketches to the final article.

It is hoped that this exhibition will encourage business concerns who may not have been aware of this service, to seek advice from the Record on their design problems; and dispel some of the erroneous ideas about industrial designers which have in the past clouded their relationships with executives in industry.

## YORK

### *Landscape Course*

The York Institute of Architectural Study has recently held a new residential course on Landscape Design, its aim being to provide students with an opportunity of learning something about the techniques and theory of this subject.

The course lasted for three weeks, but students unable to attend for the whole period were allowed to join for shorter periods of a week or a fortnight. The work was carried out at the Institute under studio conditions and with personal tuition, practical work on the drawing board being supplemented by talks and discussions. There were three tutors—Brian Hackett, Frank Clark and Peter Youngman—each of whom was in residence for a week and supervised a different design problem. For these problems, sites in or near York on varying scales were chosen. The first week's problem dealt with the small scale of open spaces in central areas, where the emphasis is chiefly on proportion, detailing and surfaces; in the second week, the larger scale of local authority housing areas, where the social uses of landscape is the principal factor influencing design; and in the last week, the large regional landscape, whose treatment is governed by planning considerations and where biological principles are of primary importance.

In order that tuition should be personal, not more than ten students were admitted in any single week. The students lived at St. John's College Hostel along with members of the Institute's summer schools and were free to attend summer school evening lectures if they wanted to. The course was most successful and is to be repeated next year: it is of value to candidates wishing to take the examinations of the Institute of Landscape Architects, who may have no other opportunity of working out landscape problems in conditions such as the course provides, and also to architects and town planners who want to study the principles of landscape design as related to their own fields.

## FOREMANSHIP

### *LMBA Medals for New Course*

The LMBA has decided to offer two medals, one silver and one bronze, to students taking the examination in General Foremanship Studies, which was recently instituted by the City and Guilds of London Institute. The medals will be awarded to the two candidates who gain the highest aggregate marks in the examination, provided they are in the employment of firms in the London Region of the NFBTE, and that in the judgment of the Department of Technology of the City and Guilds they attain a standard justifying an award.

## AJ ENQUIRY SERVICE

### *Professional Absent-Mindedness*

A number of Enquiry Forms (the tear-out sheet at the back of the JOURNAL) have been received which did not contain the names and addresses of the readers who sent them. This, naturally, makes it impossible for the manufacturers concerned to send the information requested. Would readers please carefully check that their Enquiry Form has been completed before it is posted?

## KENT

### *New Town Proposal Rejected*

The proposed development of 900 acres at Allhallows on Sea, Isle of Grain, Kent, as a new town for 25,000 people is to be opposed by the Kent county council. The councils planning committee has refused planning permission in defence of agricultural interests. The council believes that there are practicable alternatives for housing the Isle of Grain oil refinery workers—for whom the proposed new town was mainly intended—without the sacrifice of such highly fertile land.

## DIARY

*The Architect as Captain of the Building Team.* Essex, Cambridge & Herts Society of Architects discussion. At the AA, 34, Bedford Square, W.C.1. 6.45 p.m.

SEPTEMBER 7

*The Management of Design.* COID 1956 Design Congress, three sessions: 1, Case Histories. 2, The Role of the Designer. 3, Implication for Management. At the Victoria and Albert Museum and the Royal College of Art, South Kensington.

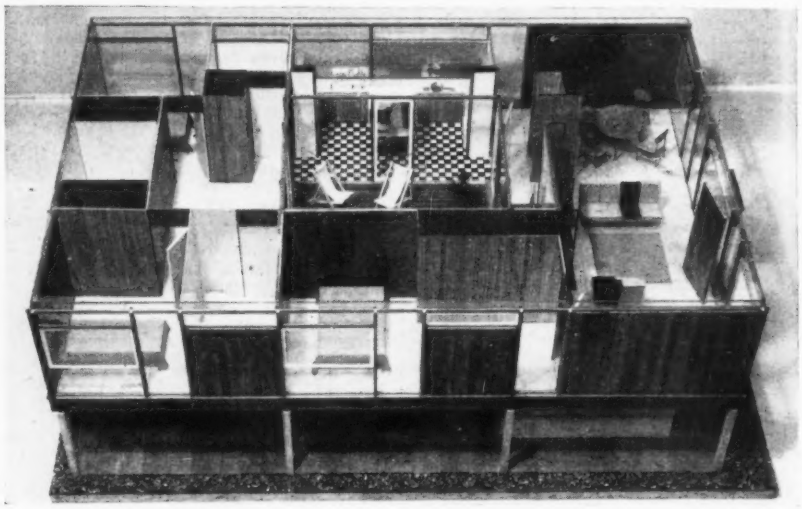
SEPTEMBER 12 AND 13

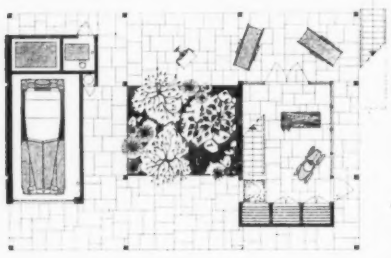
*House of Ideas.* Exhibition of house designed by Kenneth Capon for *House & Garden.* At the Tea Centre, Lower Regent Street, S.W.1. Monday to Friday, 10.30 a.m. to 6.30 p.m. Saturday 10 a.m. to 1 p.m. Admission free.

UNTIL SEPTEMBER 18

## KENNETH CAPON'S PROPOSAL FOR HOUSE AND GARDEN LIVING

*This house by Kenneth Capon of ACP has been designed for* House and Garden, *and the living room, together with a model and photographs, is on view at the Tea Centre, Regent Street. The house is raised on sixteen concrete posts set in individual foundation blocks and braced by the brick walls of the garage, boiler and tank rooms on the ground floor (see plan, below). The remainder of the construction is a wooden framework of Karooing (hardwood similar to teak) on a 3-ft. grid. In this framework are the windows and cedar-boarded panels of the outer walls and the internal Parana pine walls and cupboards which separate the rooms. The model, above, shows the arrangement of rooms. Clockwise, from top left: child's bedroom, bathroom, kitchen, dining area, living room and study, main bedroom, bathroom, child's bedroom, laundry. In the centre is a children's play space and an open sun-deck. Walls and roof are insulated with fibreglass. Roof finish: asbestos-based mineral felt on straw slabs. The house is heated by under-floor hot water coils. Estimated cost: £4,500, excluding site and professional fees.*

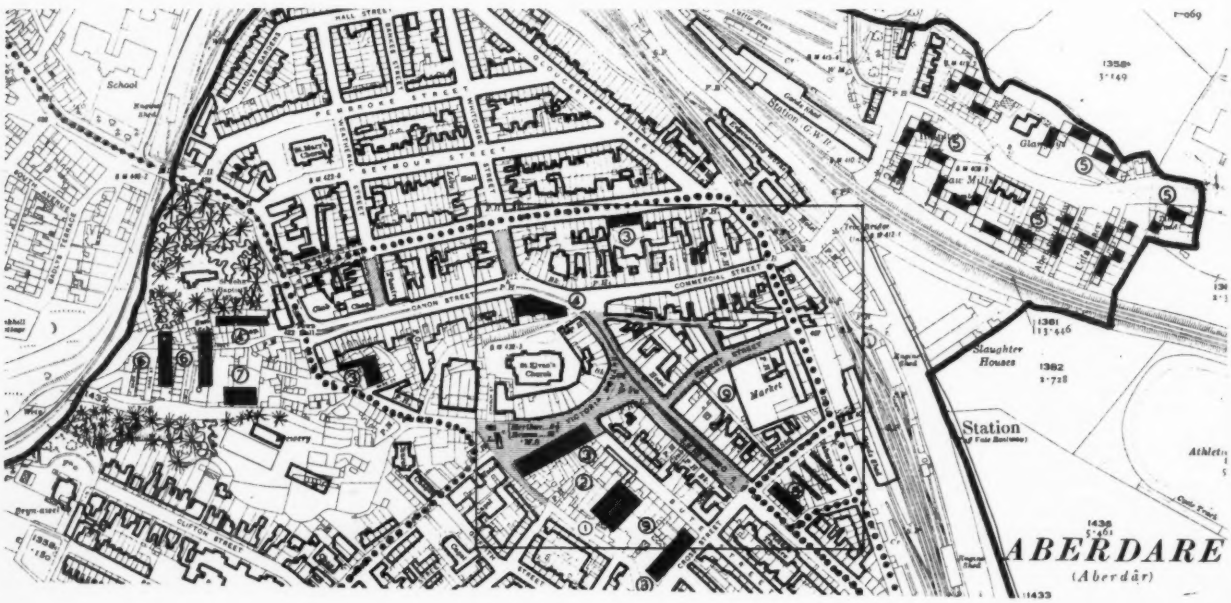




## ROYAL NATIONAL EISTEDDFOD: TOWN PLANNING COMPETITION

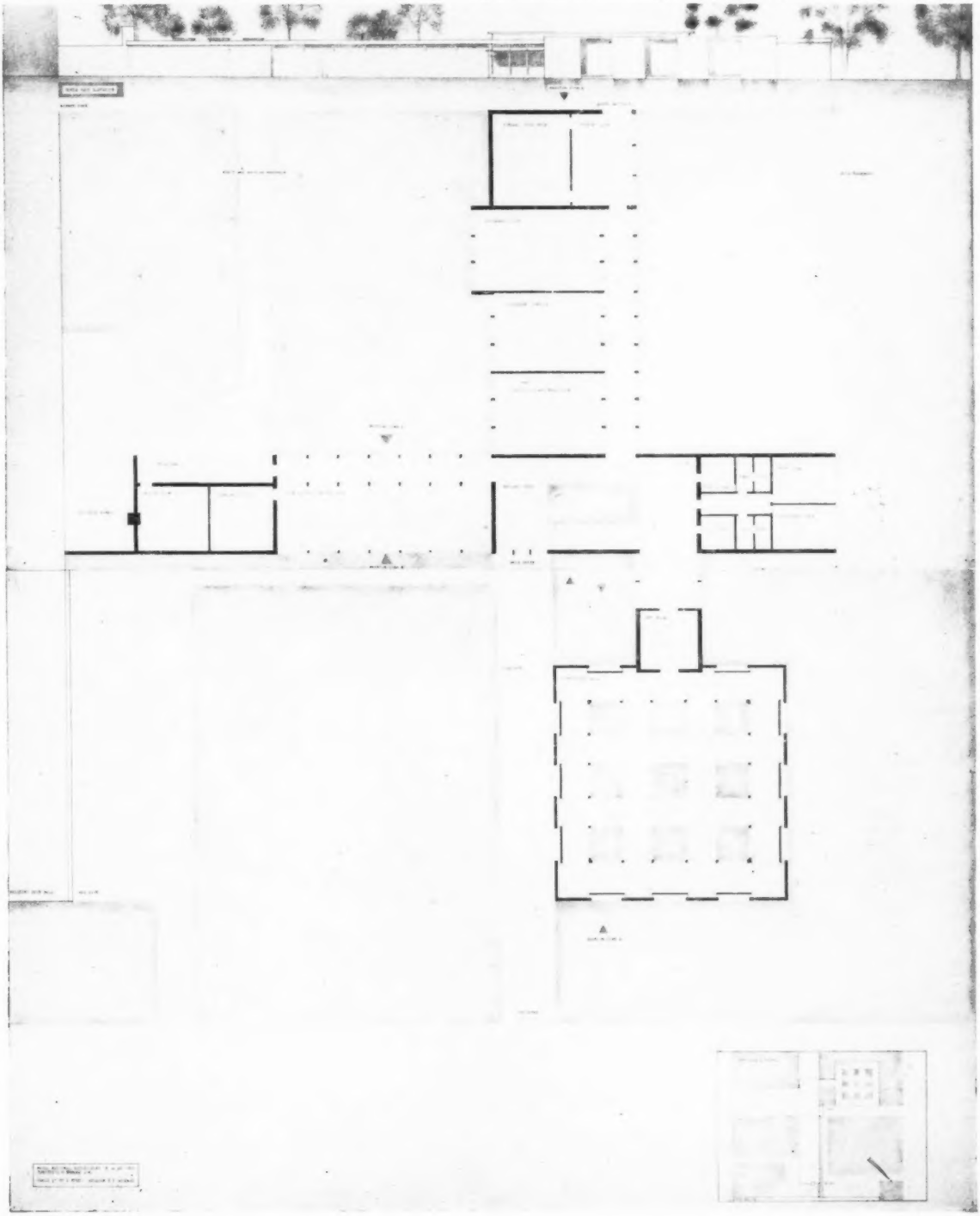
*R. J. Lansdown is the architect who has been given the first prize of £50 for his design for the replanning and redevelopment of Aberdare, a competition in this year's Eisteddfod. Part of their plan is shown below. It shows Aberdare replanned for pedestrians after five years execution of the plan. The pedestrian precinct is shown hatched and the main traffic routes dotted.*

*The assessors, T. Alwyn Lloyd, P.P.T.P.I., F.R.I.B.A., and H. W. W. Crowlter-Green, M.I.Min.E. describe the scheme as: "very ambitious . . . admirably produced . . . an imaginative and highly praiseworthy scheme." (Key to plan:* 1, *art centre;* 2, *park;* 3, *offices;* 4, *shops;* 5, *cluster houses;* 6, 3*-storey houses;* 7, *chapel;* 8, *Bus station;* 9, *car parks*)



# ROYAL NATIONAL EISTEDDFOD STUDENTS' COMPETITION

*William F. P. Goshawk won the first prize of £30 in the Eisteddfod's students' competition with the design shown below of a library and exhibition hall for a town of 40,000 people. The assessors, William Marsden and Alex Gordon, A/A.R.I.B.A., gave a careful, detailed criticism of the designs submitted. While approving of the placing of staff rooms and the simplicity of the design, they complain that the main entrance has insufficient dominance, and is screened by the exhibition hall. The entrance elevation is shown below. The plan shows the following accommodation; in the vertical block: general stock and sorting rooms, reference room, children's library and periodical and news room. The horizontal block contains, left to right, boiler room; lending stack; open-access lending room; entrance hall, with pool and public and staff lavatories and staff and librarian's rooms. Below this is the exhibition hall. The orientation of the building is shown on the site plan, bottom right.*

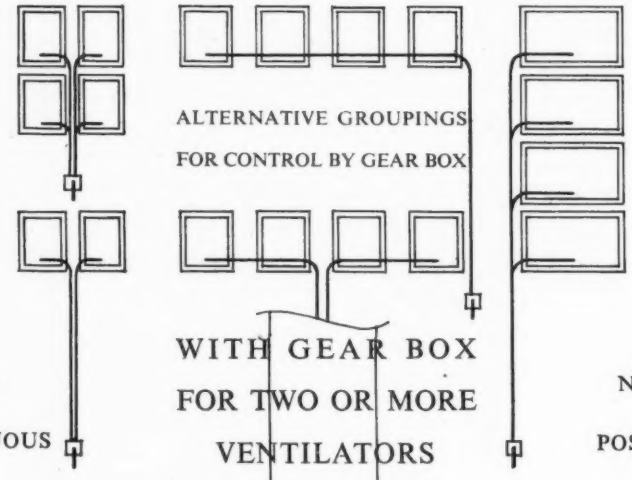


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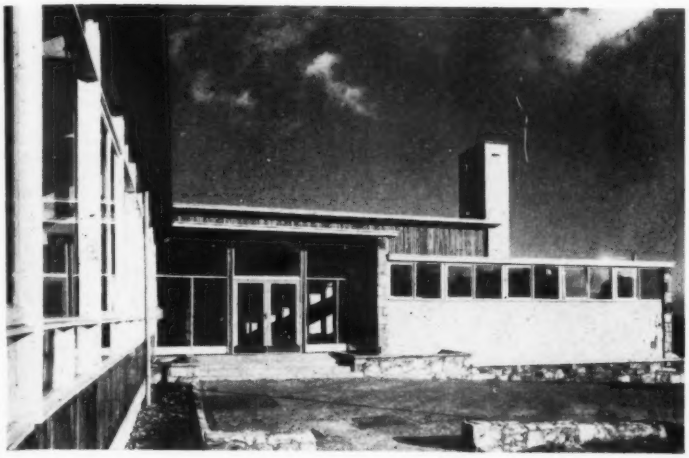
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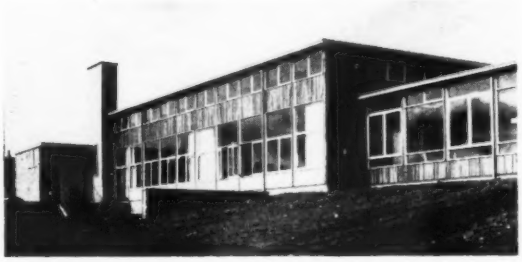
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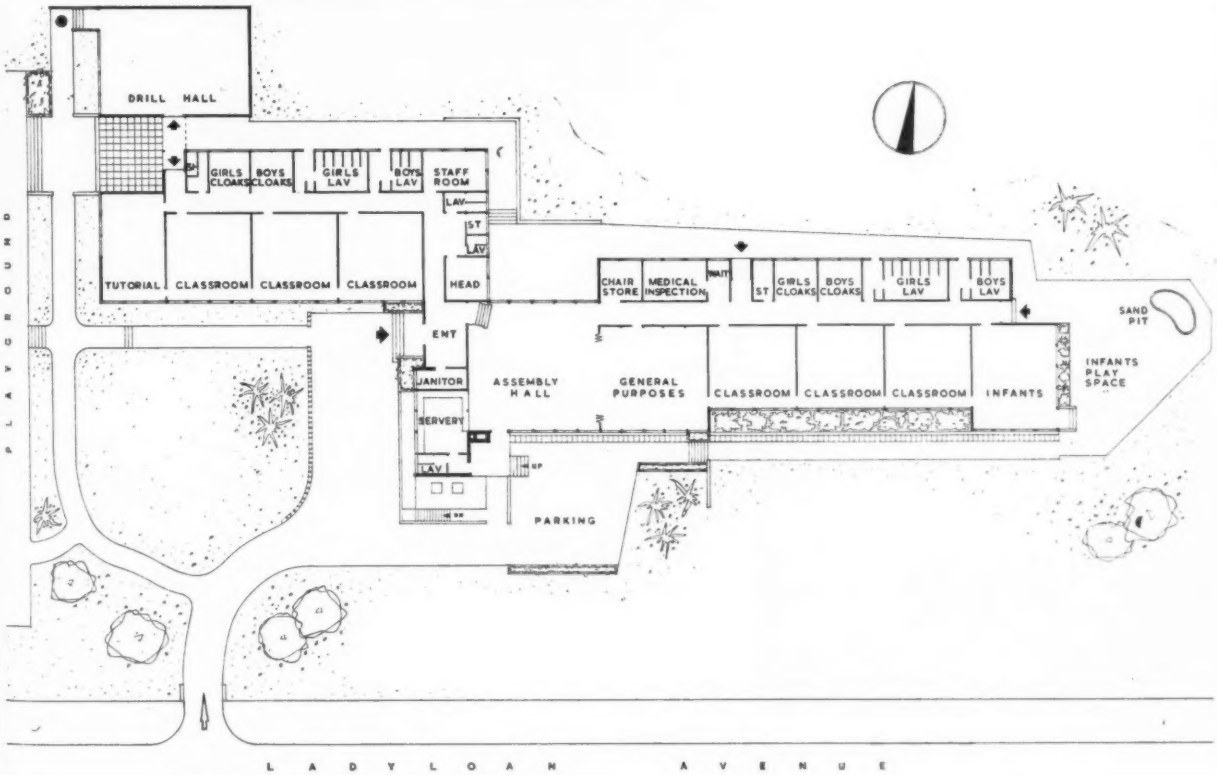
# LADYLOAN AVENUE PRIMARY SCHOOL AT GLASGOW





*This school is designed for a maximum of 340 pupils and comprises eight classrooms, general purposes room, assembly hall-cum-dining hall, servery, drill hall, medical inspection room, head teacher's and staff rooms, boiler house, and the necessary lavatory and cloakroom facilities. A tutorial room and infants' room are included in the classroom accommodation. Above left, is the main entrance, above is the south wing and left is the assembly hall. A special requirement of the planning was that the school should be used later as a special school and it was necessary for the classroom accommodation to be*






Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]

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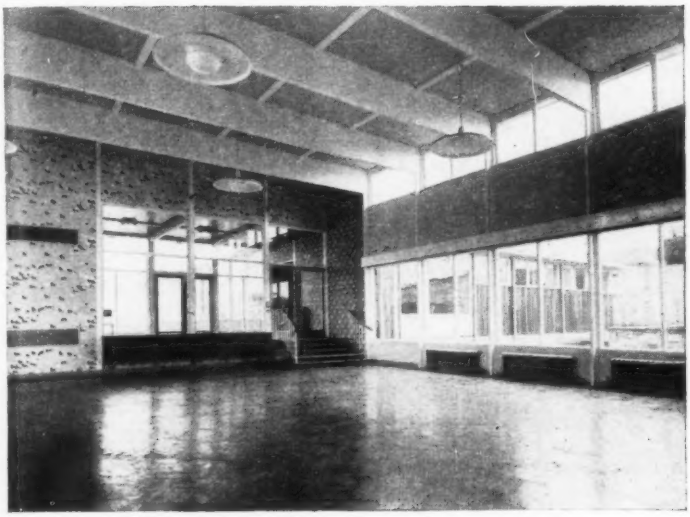
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L.G B.

## LADYLOAN AVENUE PRIMARY SCHOOL continued



*planned in such a way as to enable flexibility in the areas of the individual classrooms. In order to meet the requirements of flexibility it was decided that a non-traditional form of superstructure would be most suitable and the "Derwent" system was adopted. This timber-type structure, erected in panels six feet wide, will enable the classrooms to be increased or decreased without affecting the structure as a whole. The boiler house and servery are built in traditional materials with stone and roughcast external finishings. The floors are concrete, with linoleum finishings in the classrooms and wood flooring in the assembly hall (left), general purposes room and drill hall. The lavatory floors are finished with red quarry tiles and the entrance hall floor with concrete tiles. The internal finish of the building is plasterboard, painted, and the external cladding is Lagos mahogany vertical boarding. Heating is by a low-pressure hot water system with cabinet heaters in the classrooms, baseboard heaters in the tutorial and infants' rooms and radiators in the assembly hall and corridors. The architect was A. Buchanan Campbell, in collaboration with the city architect and planning officer A. G. Jury and principal architect (Education) John McNab. The general contractors were Melville Dundas and Whitson Ltd.; a list of sub-contractors appears on page 324.*

### SITE AND PLAN ANALYSIS

| *Site accommodation* | *Area in acres* | *Per cent. of total* |
|---|---|---|
| Building | 0·35 | 15 |
| Hard playing areas | 0·41 | 17 |
| School garden | 1·32 | 57 |
| Planting near building | 0·03 | 1 |
| Roads | 0·07 | 3 |
| Paths, paving | 0·16 | 7 |
| Total | 2·34 | 100 |

| *Plan accommodation* | *Area in sq. ft.* | *Per cent. of total* | *Area per place* |
|---|---|---|---|
| Halls (two) | 2,400 | 16 | 7 |
| Gymnasium | 1,378 | 9 | 4 |
| Store | 262 | 2 | ¾ |
| General and practical classrooms | 4,821 | 32 | 14½ |
| Pupils' storage | 273 | 2 | ¾ |
| Sanitary accommodation | 1,277 | 9 | 3¾ |
| Staff rooms | 382 | 3 | 1 |
| Service | 2,185 | 15 | 6½ |
| Circulation | 1,800 | 12 | 5½ |
| Total | 14,778 | 100 | 43½ |

### COST ANALYSIS

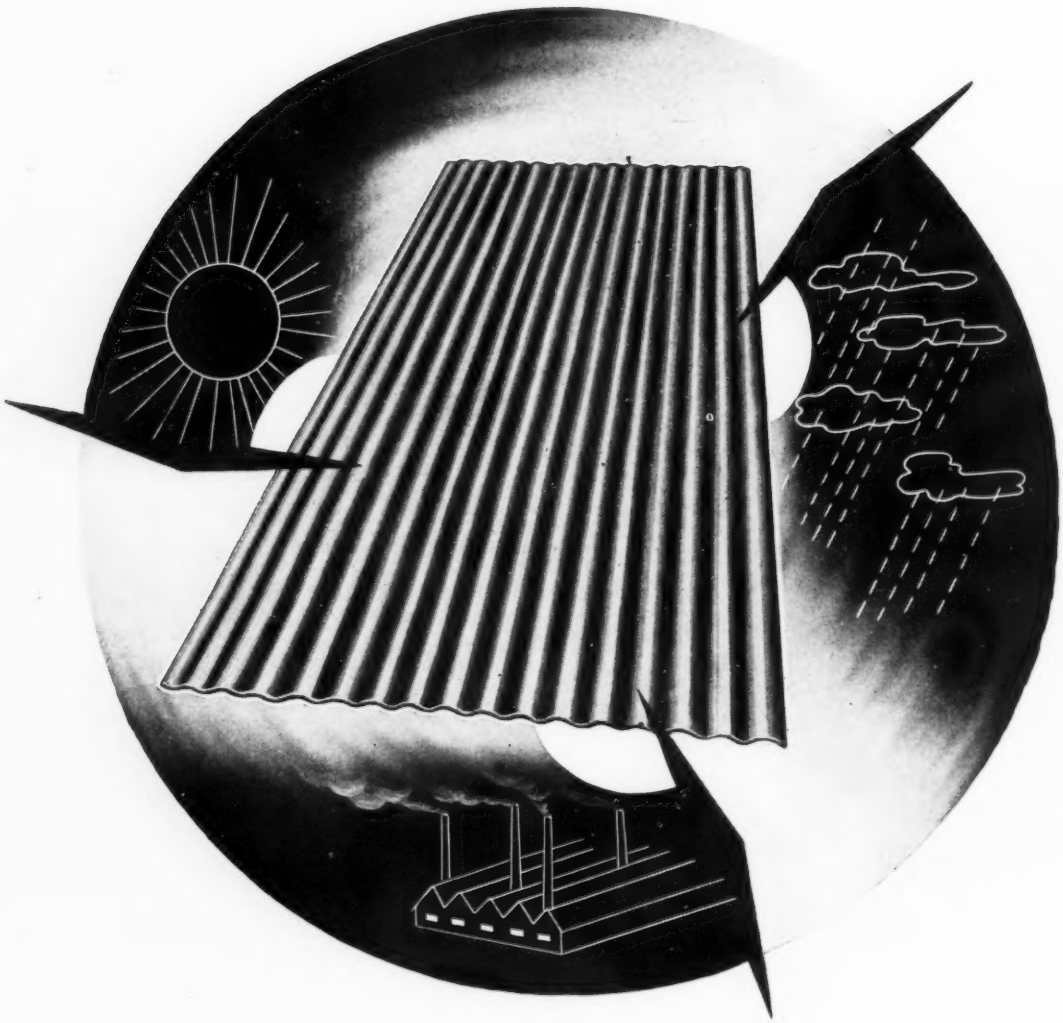
| | |
|---|---|
| Number of places | 340 |
| Floor area (sq. ft.) | 14,778 |
| Number of sq. ft. per place | 43½ |
| Net cost | £55,117 |
| Net cost per place | £162 |
| External works | £4,660 |
| Gross cost | £59,777 |
| Gross cost per place | £176 |
| Tender date | 17.6.54 |

Remainder of elements for which analysis is not available:
Internal load bearing walls, Frame, Ceiling, w.c. doors and partitions = 26s. 7¼d.
Total cost per sq. ft. of floor area = 74s. 8d.

| *Element* | *Cost per sq. ft* s. | d. |
|---|---|---|
| Preliminaries and insurance | 1 | 4 |
| Contingencies | 2 | 8½ |
| Work below ground floor level | 8 | 1½ |
| External walls and facings | | 7½ |
| Internal partitions | | 6½ |
| Roof | | 7½ |
| Roof lights | | ¼ |
| Floor finishes | 3 | 1½ |
| Windows and doors (external) | | 2¼ |
| Doors (internal) | | 1 |
| Cloakroom fittings | | 3½ |
| Wall finishes | | 3 |
| Built-in fittings | | 4 |
| Fittings | 2 | 8½ |
| Ironmongery | | 3 |
| Plumbing (external) | 2 | 3 |
| Plumbing (internal) | 4 | 8½ |
| Sanitary fittings | 1 | 0 |
| Electric installation | 2 | 10 |
| Heating installation | 6 | 5½ |
| Drainage | 2 | 9 |
| Glazing | 2 | 1½ |
| Decorations | 1 | 7½ |
| Playgrounds | 2 | 6½ |
| Paved areas | | 7 |
| Total | 48 | 0½ |

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C.2.

technical section

## THE INDUSTRY

*This week Brian Grant reviews a new insulating jacket, a range of copper water radiators, a sealing and preserving compound for timber and a new built-in refrigerator.*

### INSULATING STORAGE CYLINDERS

A relatively inexpensive type of insulating jacket for hot water cylinders is now being produced by P. H. Thermal Products Ltd. It is made up in strips 7 in. wide which are filled with a 1 in. thickness of glass wool or mineral fibre having a thermal conductivity of about 0·27 BTU's per sq. ft. per hour, this figure conforming to BS. 1304. The strips are covered with white washable plastic material and fit snugly round any pipe connections, while thicker jackets having 1½ in. or 2 in. of insulation can also be supplied. Prices start at 43s. 9d. and increase according to the size of the tank, and since an uninsulated cylinder wastes about 6s. worth of heat per week with current at a penny a unit, it can be seen that these jackets should pay for themselves in a reasonably short time.

The manufacturers also produce a colour-changing gauge known as a Thermostrip. The strip is 2 ft. long and is fitted vertically to the cylinder in between two of the strips of the insulating jacket. When the water is cold the strip is yellow, but as the water begins to warm up the strip turns red at the top and this length of red increases as the water gets hotter and ultimately the red colour reaches the bottom of the insulating strip when the cylinder is entirely full of hot water. This perhaps can be regarded as something of a gadget but it certainly is more effective than a thermometer which only indicates the temperature of the water at the top of the tank, whereas this strip indicates quite clearly how much hot water is available. (*P. H. Thermal Products Ltd., Westgate, Baildon, Yorkshire.*)

### SHEET COPPER RADIATORS

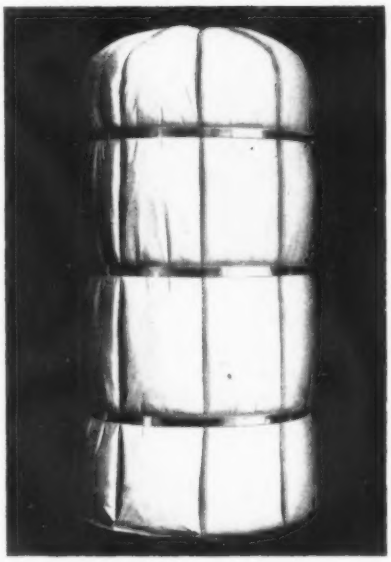
Dimplex Ltd. are now producing a range of copper water radiators which are made in five sizes with radiating areas from 7 to 15 sq. ft. They are designed for particularly long service on direct hot water systems and are made from copper tube to B.S. 659 and their construction is based on Type 7 of B.S. 1845. The heating surfaces consist of " tube panels " which have approximately twice the heating surface of a plain tube of the same bore, and prices, complete with fixing brackets, vary from £9 10s. to £17 10s. Standard finish is bronze stove enamel, but other finishes are available at an extra cost varying from 3s. to 6s. (*Dimplex Ltd., Millbrook, Southampton, Hampshire.*)

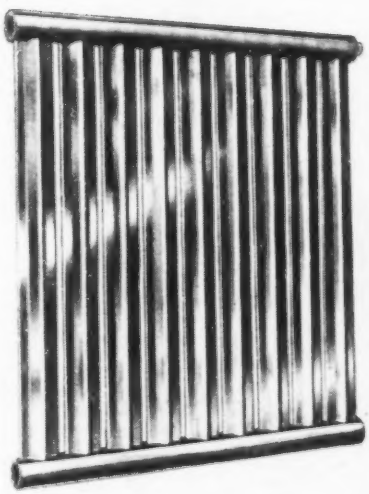
### NEW FLUSH DOOR

A new type of flush door known as the Thamesply-Werno is claimed to have 40 per cent. more sound insulation than the usual skeleton flush door and is also considerably stronger. The door, which originated in Sweden, has the usual timber frame faced with hardboard or veneered plywood, but the core is packed with short lengths of straw uniformly cut and tightly compressed, the straws being glued at right-angles to the face of the door with a special adhesive. The air pockets provided by the straw give a sound insulation value of 22 decibels and the heat insulation value is also considerably improved. The filling materials also tend to make the doors quieter in use and should also eliminate the ripples which are so usual with unsupported door faces. Partitioning, using the same method of construction, is also being produced. (*Thames Plywood Manufacturers Ltd., Hart's Lane, Barking, Essex.*)

### SEALING AND PRESERVING TIMBER

Cuprinol Ltd. have just produced a sealing compound which reduces the water absorption of timber by as much as 85 per cent. Moisture movement is correspondingly reduced and the sealer also incorporates the various metallic salts which have been used in the past for Cuprinol wood preservers. The sealer is particularly suitable for use with all external timber, but it should also be used on joinery which is exposed on building sites before it is built in, and thus subject to changing moisture conditions. It can be applied in two brush coats or by liberal spraying, or timber can be immersed





*Top: An insulating jacket, made up of 7-in. wide strips filled with glass wool and covered with washable plastic material, manufactured by P. H. Thermal Products Ltd. Above: a copper water radiator, finished in bronze stove enamel, by Dimplex Ltd. It is made in five sizes with radiating areas from 7 to 15 sq. ft.*

# PROTECTION?



There are ways and means of protecting most things, but when it comes to paintwork it pays to remember that paints based on Titanium Oxide are renowned for outstanding durability. These modern paints stand up to sun, rain and frost and they are unaffected by the sulphurous fumes of the industrial areas. Paints containing Titanium Oxide combine covering power and brightness with durability and high gloss.

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technical section

in the solution for three to five minues. Covering capacity is about 200 sq. ft. per gallon on rough sawn timber and about twice this figure on planed wood: all timber should be cut to size before treatment and joinery may be dipped after it has been made up. The treated wood must be thoroughly dried before paint is applied and this will take anything from two to six days, according to weather conditions. Putty will adhere to treated timber, but it takes about twenty-four hours longer to set hard. (*Cuprinol Ltd., Terminal House, Grosvenor Gardens, London, S.W.*1.)



*The Electrolux M.* 170 *built-in refrigerator.*

**NEW ELECTROLUX REFRIGERATOR**

Electrolux were the first manufacturers, so far as I remember, to arrange refrigerators for building in, and their M.151 model has been installed in something like 150,000 dwelling houses since the end of the war. This model has now been replaced by the M.170, which, although it is also arranged for building in, has a slightly larger storage capacity of $1\frac{3}{4}$ cu. ft. The dimensions of the new model are $31\frac{7}{8}$ in. high, 21 in. wide, with a depth of $20\frac{5}{16}$ in., so that it can be installed below a dresser top or underneath the draining board of a sink unit. The manufacturers, however, recommend that it should be fitted so that its lower edge is from 30 in. to 36 in. above floor level, as this height provides the most convenient access to stored food. The door of the new model can be supplied either right- or left-handed and, as is usual nowadays, has two shelves on its inner face for the storage of small packets or bottles. Standard external finish is white or cream enamel. Like other Electrolux models, the M.170 is of the absorption type and, as it has no motor, is completely silent. The gas operated version has an average consumption of ·14 therms per twenty-four hours, the electric version consuming about 1·8 units. (*Electrolux Ltd.*, 153-155, *Regent Street, London, W.*1.)

# INFORMATION CENTRE

*A digest of current information prepared by independent specialists; printed so that readers may cut out items for filing and paste them up in classified order.*

6.53 planning: social and recreational

**LANDSCAPING**

*Tomorrow's Landscape.* Sylvia Crowe. (Architectural Press Ltd. 21s.)

This is an excellent book by an author who joins æsthetic awareness with technical competence. Sylvia Crowe's thesis is that our high densities and the enlarged scale of our undertakings require a new technique of partnership with nature if our landscape is to become once more functional, coherent and beautiful. She discusses everything from the method of adapting grass and woodlands to urban use to the reclamation of waste lands and the landscaping of trunk roads and gasometers. Though fully aware of the accrued values of the different parts of our countryside, she is also aware of what is new in our visual repertoire and does not hesitate, for instance, to draw the analogy between the paintings of Paul Nash and the kind of shelter belt advocated (on strict ecological grounds) by the Ministry of Agriculture. For the architect reader (who is almost by definition a townsman) the book is chiefly valuable for its lucid description of the workings of plant ecology (*e.g.* the effect on plant life of changes in environment). For Sylvia Crowe, who is a sort of mid-twentieth century Gertrude Jekyll, never fails to give concrete examples of exactly what she means; and though the reader may occasionally find himself wanting to argue the toss with her, he is hardly ever left with the sense that the problem has not been satisfactorily posed. Architects have always claimed—and rightly—to be the guardians of environment. This book should rouse them from their long, deep sleep.

6.54 social and recreational

**GARDEN DESIGN**

*The Art of Home Landscaping.* Garrett Eckbo. (F. W. Dodge Corporation. 5·95 dollars.)

Garrett Eckbo, together with Thomas Church (the other leading landscape designer in the U.S.A.), has in recent years been consciously seeking to evolve a style of design which, escaping from the fetters of traditional clichés derived from a reverence for the past more powerful in the U.S.A. perhaps than in Europe, shall bring the art of landscaping into harmony with contemporary developments in the other arts. The results, as illustrated in the work of his firm copiously reproduced in this book, have an apparent restlessness, an over-striving for original effects (reminiscent of so much exhibition stand designing in this country since the war) which doubtless satisfy the exuberance of the American temperament (and therein find a justification) but which English reticence will scarcely find congenial. Nevertheless, it is refreshing and stimulating to study the illustrations of work which has so much originality; and it is instructive to read the text.

The book is concerned, as the title implies, with only one small part of the whole field of landscaping; which the sub-title, in typically ungainly language, elaborates as "How to plan, build and plant to achieve useful and beautiful outdoor space for living." It deals with the problem of the small suburban garden in the U.S.A. and it shows illustrations of solutions arrived at mostly in the Californian region where the Eckbo firm is based; solutions which, obviously, are not necessarily applicable to English conditions and, more pertinently, are much too costly for most English purses. It is specifically addressed to the owners of such gardens rather than to those who might be professionally concerned in the designing of them. The early chapters of the book, explaining the process of design and trying to convince the layman of its benefits, can quickly be bye-passed by any architect who may read it. The later chapters elaborate on landscaping as an art (the shaping and enrichment of space and so on) and on the materials and techniques employed (ground and its problems of grading and drainage; hard surfacings, rocks and water; soils and plants; structures). All these are discussed, and rightly so, within the book's terms of reference, very generally. It makes useful reading for those who have not given much thought to (and as a reminder to others who may have forgotten) all that landscaping involves: but it is of little aid to the designer seeking technical information to help in the solutions of specific problems.

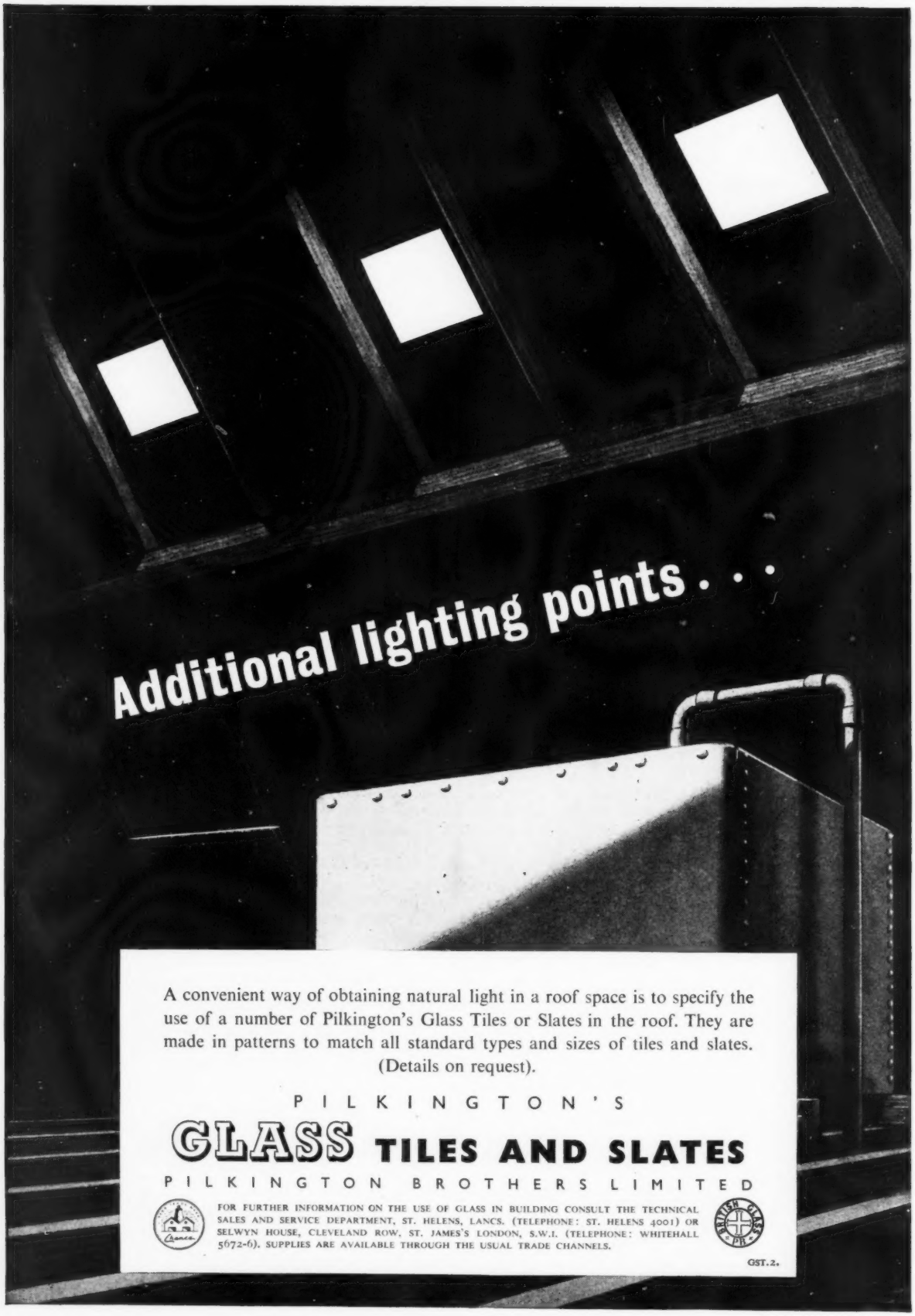
19.195 construction: details

**COMPOSITE STEEL AND CONCRETE MEMBERS**

*New Type of Shear Connector Cuts Costs of Composite Construction.* (Engineering News Record [U.S.A.] 10.5.56, pp. 46-48).

Stud welding used for shear connectors in bridges and building work, of interest to architects and engineers.

In the highway bridge at Port Pierre, South Dakota, there are five equal spans of 68 ft. Continuous girders of 7 ft. centres are haunched at the supports and at the centres combine with the deck slab to take the positive bending moment. The shear connection between slab and girder flange is obtained by stud welding. Rows of 6 studs at 12 in. to 24 in. spacings are positioned by a wood frame, and have applied to them a welding gun fed by a 2,000 amp. generator. All the welding is done in the structural steelwork shop. The studs are $\frac{3}{4}$ in. diameter and 4 in. long with upset heads.




A convenient way of obtaining natural light in a roof space is to specify the use of a number of Pilkington's Glass Tiles or Slates in the roof. They are made in patterns to match all standard types and sizes of tiles and slates. (Details on request).

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GST.2.

**technical section**

In a new building for International Business Machines in New York State ¾ in. studs have also been used as connectors. In the second floor a great saving was achieved on long span beams bringing the girder steel down from 8·9 p.s.f. to 6·0. The original design was with the more usual type of spiral connector, but the successful steel bid employed studs welded in the shop. Among the advantages are speed of welding and easier stacking in the shop.

19.196 construction: details
**WIND BRACING WALLS**

*Walls Help Steel Frame in Multistorey Building.* (Engineering News Record [U.S.A.] 10.5.56, pp. 36-38).

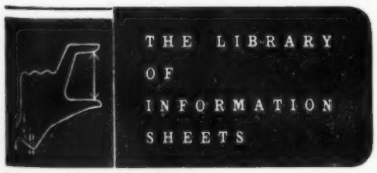
Exterior concrete walls of steel framed building designed to carry wind and earthquake forces, of interest to architects.

The Superior Oil Co. Building in Los Angeles is a square building of 115 ft. side with a column grid of 28 ft. There are 12 storeys, each of 12 ft. 7 in., with a central tower which rises to 200 ft. The frame is welded steelwork and carries secondary beams at 5 ft. centres, which in turn support a cellular steel deck topped with reinforced concrete. This reinforcement is carried into the external walls so that the floor slab becomes a horizontal diaphragm acting with the outer walls to give a very rigid box. The outer walls are 6 in. thick and cast *in situ*. They form enormously stiff members 115 ft. wide by 150 ft. high, with openings for 14 windows at each floor 6 ft. high by 6 ft. wide, providing 3 ft. wide piers between the windows. Each pier is finished by a continuous vertical strip of white marble 1¼ in. thick and the 4 ft. horizontal strips are faced in light gauge stainless steel.

25.122 water supply and sanitation
**FIBRE PIPES**

*Pitch-impregnated Fibre Drain and Sewer Pipes.* BS2760:1956. (BSI. 4s.)

This is the first British Standard to specify pitch fibre drain pipes (see article in AJ March 10, 1955). Follows US Commercial Standard 116/54 closely and gives recommendations for laying and jointing in an appendix. Gives dimensions of 45 deg. and 90 deg. bends and 5 deg. angle couplings, but though it mentions that pitch fibre adaptors (*i.e.* to make connections with pipes of other materials) are being made by manufacturers, these are not dimensioned.




*REFERENCE BACK*
15.B4, 36.A2, 36.A3

*The name and address of the manufacturer is now Cape Building Products, Limited, Cowley Bridge Works, Uxbridge, Middlesex. Telephone: Uxbridge 4313. Telegrams: Incorrupt, Uxbridge.*



# 13 MATERIALS: TIMBER
## Design and practice of joinery 12

**by John Eastwick-Field and John Stillman**

### JOINERY SPECIFICATION 2

In their last article, which appeared in our issue of August 16, 1956, the authors began their discussion of joinery specification writing by considering the general clauses and the specification of the timbers themselves. This week they continue by describing how to specify moisture content and by giving specimen clauses for the other materials which must be included in a joinery specification. The article is accompanied by the concluding sections of a table of woods in common use.

We have stated throughout how important it is to ensure that the timber in joinery has an appropriate moisture content at the time the building is taken into use, and we have discussed the subject in detail in the second article which was published on November 25, 1954.

In order to avoid shrinkage and warping, the timber must be purchased from the merchant at the correct moisture content or be kilned by the joinery manufacturer himself and must thereafter be maintained in that condition.

To make sure that this is done the specification may (*a*) require the moisture content to accord with BS 1186 Part I*; (*b*) state an actual figure for the moisture content, or (*c*) describe the anticipated conditions of heat and humidity to which the joinery will be subjected, and require the Contractor himself to select an appropriate moisture content.

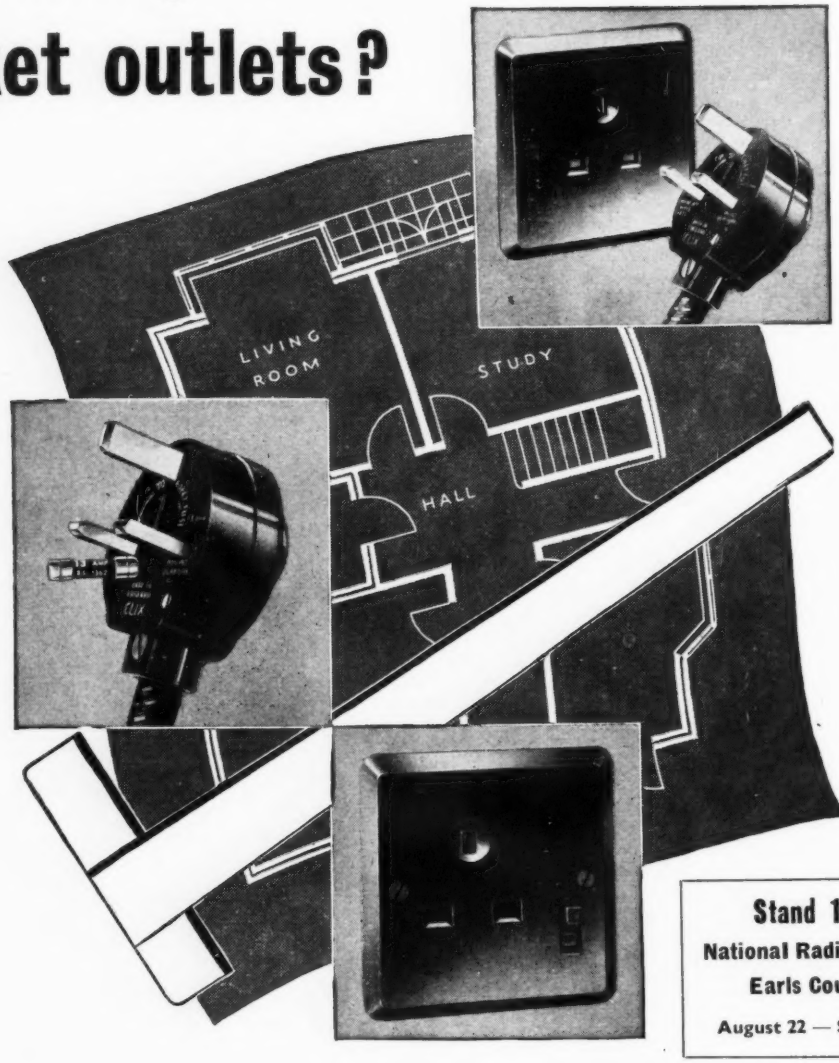
Whichever method is used it is customary for the specification to require the Contractor to make good any shrinkage or warping at the end of the "maintenance period" of the contract. This requirement is usually covered in most contracts by a general clause but is also often restated in that part of the specification dealing with the joinery.

If an architect specifies a species of wood and a par-

* The moisture content of the timber, when the joinery is manufactured and despatched from the factory, shall be within the following limits:

| | *Moisture content* | |
|---|---|---|
| | *Minimum, per cent* | *Maximum, per cent* |
| (*a*) Internal joinery, including doors, when specially ordered for buildings with central heating or other forms of continuous heating | 10 | 12 |
| (*b*) All other internal doors | 12 | 15 |
| (*c*) All other internal joinery | 14 | 17 |
| (*d*) All external doors | 15 | 18 |
| (*e* All other external joinery | 17 | 20 |

# how many socket outlets?




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technical section

ticular moisture content and the wood subsequently warps and shrinks, the question arises whether the Contractor can still be held responsible. Although it might appear that if the builder can prove that he has abided strictly by the instructions he is absolved from responsibility, under the present conditions of most contracts this would not be so, although the architect would have little grounds for argument if the moisture content he specified did not accord with the figures which are included in the British Standard and which can be taken as accepted practice.

In the second article* we showed that since the hygroscopicity of wood varies, it would be more accurate to specify the moisture content for each purpose according to the species of wood to be used. We have classified the most common joinery timbers into three groups of hygroscopicity, and have given a table of moisture contents for each group. This table indicates for example that for external frames the correct moisture contents for teak (Group A) would be 13 per cent., for Douglas Fir (Group B) would be 17 per cent., and for Gedu Nohor (Group C) would be 19 per cent. At present the British Standard figures are generally accepted but for very special work our own table should give even greater reliability.

Unless the British Standard is quoted, therefore, the choice lies in making a precise requirement for the moisture content (possibly requiring to see evidence of this) with the risk of there being some argument as to responsibility; or in leaving the choice of moisture content to the builder, with the risk that he will not take proper care, hoping that nothing will go wrong. Whilst it is easy to say that the architect shall insist on defects being replaced, it is difficult in practice, because amongst other reasons it often involves delays which are unacceptable to one's client. Also, it is one thing to condemn, say, a really bad example of shrinkage, but it is not so easy to condemn work on account of an accumulation of minor defects due to bad seasoning, although these defects might very much detract from the appearance of the work. In our opinion, therefore, the British Standard, or better still the precise moisture content required for each item of work should be stated in the specification.

It may be objected that architects cannot easily ensure that their instructions are carried out. Certainly at the time of writing it is not usual for architects to have tests made to determine the moisture content of joinery. It is established practice, however, to order regular tests of concrete, and there seems no reason why tests should not also be made of timber.

In the first place it should not be difficult to obtain copies of certificates issued by the kiln owner relating to the timber used. Whilst this is obviously not a complete safeguard it at least ensures that the timber is at the correct moisture content before manufacture. Properly, of course, the test should be made at the time the joinery is taken into use.

This can be done in two ways: either by using a battery operated electronic moisture meter or by sending a sample for a laboratory test. Meters usually work by measuring the resistance to an electric current between two needles which are driven a short way into the wood—not more than $\frac{3}{16}$ in. Only the moisture content at the surface therefore can be obtained by this type of instrument. At least one meter is available having electrodes to be screwed into the wood up to a depth of $2\frac{1}{4}$ in., thus overcoming this difficulty. It is claimed, however, that with the relatively small sections encountered in joinery, a surface reading gives a sufficiently good indication of the general condition of the wood for practical purposes. The Inspectors for the Ministry of Works, whose duty it is to examine joinery and furniture being manufactured, use moisture meters as a first check. In case of doubt an accurate laboratory test can be ordered. A portable moisture meter which would be suitable for architects' use costs about £30.

*Marconi moisture meter*: covers range 7 per cent. to 25 per cent. (margin of error $\frac{1}{2}$ per cent.). Weight 10 lb. Size approx. 9 in. × 9 in. × 9 in. £35.

*Gann Hydromat KL*20-02: (German meter sold by Messrs. Interwood Ltd.) Covers range 5 per cent. to 30 per cent. (margin of error 5-15 per cent. = 1 per cent.; 15-30 per cent. = 2 per cent.) Weight 3 lb. Size approx. 8 in. × 6 in. × 3 in. £30 including case. (Type KLB is supplied with screw-in electrodes).




*The Gann Hydromat.*

The laboratory test consists of drying the sample in an oven until all moisture is driven off, and then comparing its dry weight with its original weight. The Forest Products Research Laboratory will carry out tests for architects where they do not have laboratories available to them. The charge is 15s. for one or two samples and 5s. for each additional sample in the batch. The results are given in a day or two. Samples should be protected by waterproof wrapping or by a sealed container. If possible the full section should be sent 6 in. to 9 in. long: the offcuts from the

* November 25, 1954.

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BARTREV

technical section

heads or cills of frames would be suitable provided they were not too short.

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SAMPLE SPECIFICATION:
*Alternatives:*

*(a) The moisture content of the timber when the joinery is manufactured and delivered to the site shall come within the limits given in BS.1186 Part I, for each use, and shall be maintained until the building is completed.*

*(b) The moisture content of the timber used for internal joinery is to be 10% and that used for external doors and frames is to be 16% when the joinery is delivered to the site, and these moisture contents are to be maintained until the building is finished. The architect will require evidence of correct moisture content to be submitted to him before the joinery is fixed*

*(c) The attention of the contractor is drawn to the fact that the building will be centrally heated. All timber for joinery is to be properly kilned. The moisture content is to be between 9% and 16% according to the position of the timber.*

*(d) The joinery manufacturer is to ensure that the moisture contents of the various items of joinery delivered to the site are appropriate to the conditions of use to which the components are to be put. In particular the following conditions are to be taken into account:*
*(i) Central heating during the heating season in all parts of the building excepting the following rooms: . . .*
*(ii) The proximity of window boards and casings to radiators.*
*(iii) High relative humidity to be expected in . . .*
*(ix) Metal dowels, straps and other fastenings. To be galvanised mild steel.*
*(x) Ironmongery. To be to materials and designs set out in the Schedules.*
*(xi) Glues. For joinery to be exposed externally to be phenolic resin adhesive to BS.1204 type B100, e.g. "XXXXX" applied strictly according to the manufacturers' instructions. For internal joinery to be "XXXXX" as above (or where expressly indicated animal glue to comply with BS.745).*
*(xii) Preservative. To be "XXXXX" Clear wood preservative made by Messrs. "XXXXX."*
*(xiii) Priming Paints. Alternatives:*
*(1) To be of the same manufacture as the finishing paints specified, i.e. First quality wood primer made by Messrs. "XXXXX."*
*(2) To be white lead wood primer to comply with BS.929.*

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**Other materials**

As will be evident, natural timber is by no means the only material used in joinery. The specification may need to include requirements for the following:

*Plywood*
*Blockboard*
*Laminboard*
*Wood veneers*
*Plastic veneers*

These have been dealt with at some length in articles 8, 9 and 10* and since there is not the same difficulty in specifying them as solid timber, we refer readers to these articles.

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SAMPLE SPECIFICATION:
*(i) Plywood: To be Birch to BS.1455 Grade 2 or equivalent. For internal work adhesion to be A15 interior type and for external work AX100 exterior weatherproof type, as specified in BS.1203.*
*(ii) Blockboard: To be of best quality British manufacture with softwood core and birch veneers.*
*(iii) Chipboard: To be "XXXXX" or other brand specifically approved by the architect.*
*(iv) Wood Veneer: To be prime quality French Walnut not inferior to the samples already submitted and approved. The Architect is to be informed when the whole of the stock is ready for his inspection and approval, before the work is commenced.*
*(v) Plastic Veneers: To be Messrs. XXXXX decorative veneer ORANGE colour MATT finish applied to ¼ in. blockboard strictly according to the manufacturer's instructions. Doors are to receive a backing of 1/16 in. brown plastic veneer made for this purpose.*

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*Glues, screws and nails* are dealt with in article No. 5† and *preservatives, paints and finishes* in article No. 7‡. Ironmongery must also be specified in detail—it is not sufficient to put in a p.c. sum without description since the joiner must know what work is entailed in fixing.

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SAMPLE SPECIFICATION:
*(vi) Nails: To be oval lost head wire nails to comply with BS.1202.*
*(vii) Screws: To be countersunk wood screws to comply with BS.1210. Steel screws are to be used in concealed positions. Brass screws (with brass cups where specified) are to be used on exposed faces where indicated on the drawings. Screws for fixing ironmongery are to be of the same metal as the hardware except that aluminium alloy hardware is to be fixed with brass screws finished satin chrome. No steel screws are to be used in positions subject to dampness.*
*(viii) Hinges: Casement hinges are to be rust proofed steel hinges to comply with BS.1227 reference[7]. Door hinges are to be brass with steel pins and washers.*
*(xiv) Knotting: To comply with BS.1336.*
*(xv) Varnishes: To be standard oil varnishes to British Standards as below:*
*BS.256 Interior oil varnish.*
*BS.258 Flatting or rubbing varnish.*
*BS.257 Exterior oil varnish.*

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* May 3, 10 and 17, 1956.
† July 21, 1955.
‡ December 15, 1955.

technical section

SCHEDULE OF DOORS.

| Position | Size | Specification | Frame or Lining | Furniture & Locks (See list of Provisional Sums) |
|---|---|---|---|---|
| Front Door | 6'9" x 3'0" x 2" | Framed and battened and ledged in oak. | ex 4" x 3" softwood painted. | Night latch. Mortice lock. Pr. bronze knobs. Special letter plate. |
| Living Room<br>Study<br>Dining Room | 6'6" x 2'6" x 1⅜" | Flush painted. | ex 5⅛" x 1½" softwood painted. | Mortice lock. Pr. lever handles. |
| Kitchen | 6'6" x 2'6" x 1⅜" | Flush painted. | ex 4" x 1½" painted softwood. | Mortice lock. Pr. lever handles. |
| Cloaks | 6'6" x 2'3" x 1⅜" | Flush painted. | ex 4" x 1½" painted softwood. | Mortice latch. Pr. lever handles. C.P. bathroom bolt. |
| Larder | 6'6" x 2'6" x 1⅜" | Flush painted. | ex 4" x 1½" painted softwood. | 6" 'D' handle. Adjustable roller bolt. |
| Back door | 6'6" x 2'6" x 1¾" | Softwood framed ledged braced battened. | ex 4½" x 3" | Mortice lock. Pr. knobs. Pr. 6" barrel bolts. |

*Above: typical schedule of doors. Below : extract from a typical schedule of ironmongery.*

| | | | |
|---|---|---|---|
| **Furniture for sliding sashes in wood** | | | |
| Roller | 2 per window | Item 57 | To be brass roller 9/16" diameter with curved bearing surface ⅜" wide, cast brass body with 1½" x ⅜" face plate drilled with 2 holes for ⅜" x 5 countersunk sherardised screws. |
| Bearing plate | 1 per window | Item 58 | To be standard brass T-section ¾" x 3/16" x 1/16" thick flanges drilled at each end and at 6" staggered centres on alternate flangee, for No.5 size ¾" long countersunk head wood screws. |
| Bolts | 1 per window | Item 59 | To be 3" silver anodised satin finished aluminium alloy straight barrel bolt and two sockets and screws to match. |
| Pull handle | 1 per window | Item 60 | To be 4" aluminium alloy extruded section grip handle with all exposed surfaces silver anodised satin finished with face plate drilled with 2 holes for 1" x 8 countersunk sherardised screws. |
| **VENTILATORS** | | | |
| Larders in Blocks Nos. 2 and 3 | 1 per Larder | Item 62 | To be approved 4" diameter Kitchen Cabinet Ventilator with gauze, silver anodised satin-finish with screws. |

*BS.274 Extra hard drying varnish.*

*(xvi) Synthetic varnish or Plastic polish (Synthetic resin finish) or Cellulose lacquer: To be "XXXXX" undercoats and finishing coats for brushing (or spraying) to be supplied by Messrs. "XXXXX" with full instructions for application.*

*(xvii) Wax Polish: To be made from genuine beeswax and turpentine.*

*(xviii) Fillers for polishing: To be paste fillers consisting of whitening or china clay in methylated spirits or turpentine, tinted to match the wood.*

*(xix) Stains: To be spirit stains of approved colour.*

*(xx) French Polishes: To be white or transparent polish (to preserve as far as possible the natural colour of the wood).*

The specification of priming paint is important for two reasons. Firstly if it is not of good quality (some "pink primers" are little better than distemper) it will cause the coats of paint applied on top of it to peel off; and secondly if for any reason at all the paint fails, the painter and paint manufacturer may put the blame on the primer. The second danger can be overcome either by specifying the primer to be of the same manufacture as the paint which is to be used on top of it, or by specifying the primer to be one of the types covered by BS.929 (*e.g.*, 929P1 white lead). The latter is more convenient for the joiner, since he can probably continue with a brand he has in stock, but if it is intended that the finish is to be a "synthetic" paint, or of unusual formulation it would be advisable to find out whether the B.S. primer will be satisfactory.

Schedules of doors, windows and cupboards incorporated in specifications, or set out separately as drawings, are of great assistance in visualising the ironmongery required for each item and in remembering to specify the materials and finishes, kinds of screw, and so on. The complexity of this part of the architect's work can be judged from the schedule of doors and the schedule of hardware above.

## Selection of timbers suitable for joinery, 2

The timbers on this list have been selected on the basis of general availability in this country and for general use in joinery: highly decorative woods have not been included, nor those used primarily in veneers. For notes on the italic column headings refer to the first part of the selection printed in the issue of August 16, 1956

| *BS name and country of origin. Other common names given in brackets* | *Average weight per cu. ft. in lbs.* | *Colour* | *Grain and texture* | *Natural durability* | *Degree of moisture movement* | *Availability in this country* | *Special notes on sizes* | *Comparative costs* | *Whether available as veneer* | *Suggested positions of use* | *Remarks* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| HARDWOODS | | | | | | | | | | | |
| SYCAMORE<br>U.K. and Europe<br>(same genus as Maple) | 38 | Creamy white. Darkens on exposure to golden yellow | Straight grain. Fine texture | P | Medium to large | II | Average | B/C | Yes | Internal | Mainly used in veneer form. In the solid it works easily and finishes well, being particularly good for staining. Sometimes it is treated by dyeing to produce a grey colour known as " Harewood " |
| " TASMANIAN OAK "<br>Australia | 45 | Light brown. Superficially resembling English oak | Generally straight grain. Medium texture | MD | Large | III | Average | B/C | Yes | Internal | Three species are grouped under this name but none has any botanical relationship with oak. It sometimes suffers collapse in kilning and needs special reconditioning. Works with moderate ease and finishes cleanly. Suitable for joinery, furniture and flooring |
| TEAK<br>Burma, India, Siam, Indo-China, Java | 41 | Golden brown. Darkens on exposure | Straight grained | VD | Small | II | Average | A | Yes | Internal and external, including cills and drainers. Can be oiled for external use | Well known for its outstanding qualities of durability (it has a naturally oily nature), stability, high strength in relation to weight, resistance to fire and corrosion by acids. It is of very good appearance. It is undoubtedly the best wood for draining boards and is specially suitable for laboratory and other work tops. Where cost permits it is no less suitable for general joinery, but it is not exceptionally good for floors or stair treads since the grain rubs up under abrasive wear. Works with moderate ease but dulls tools |
| UTILE<br>West Africa<br>(Closely related to Sapele) | 40 | Dark reddish brown | Interlocking grain more irregular than Sapele. Medium texture | D | Small | I | Good widths and lengths | D | Yes | Internal and external | A wood similar in appearance to Sapele although it is less highly figured. It is useful for interior joinery and fittings |
| WALNUT, EUROPEAN | 43 | Grey with reddish brown markings. Sapwood pale straw | Well figured particularly English. Fine texture | MD | Small | II | Average | A | Yes | Internal | Very popular for furniture fittings and panelling but mainly used in veneer form. Suitable for use in the solid, but expensive. The wood should not be confused with African Walnut which is not a true walnut but in fact more like African Mahogany |

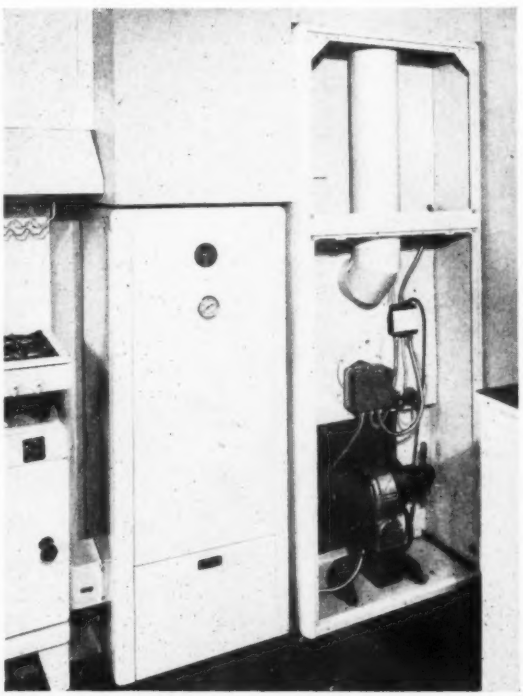
| *BS name and country of origin. Other common names given in brackets* | *Average weight per cu. ft. in lbs.* | *Colour* | *Grain and texture* | *Natural durability* | *Degree of moisture movement* | *Availability in this country* | *Special notes on sizes* | *Comparative costs* | *Whether available as veneer* | *Suggested positions of use* | *Remarks* |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SOFTWOODS | | | | | | | | | | | |
| DOUGLAS FIR "Pseudotsuga taxifolia" British Columbia Western U.S.A., U.K. (B.C. Pine, Oregon Pine) | 37 | Pale reddish yellow to deep orange brown | Straight grain varying in texture. Relatively free from knots | MD | Small | I | Available in very large sizes | E to H | | Internal and external including cills | Employed generally for carpentry and joinery especially where large sizes or high strength are wanted. A little more difficult to work and finish than Redwood, and tends to split on nailing, but produces a good finish. Sometimes very resinous. The use of blunt tools produces raised grain, and this also has to be overcome in finishing |
| HEMLOCK, WESTERN "Tsuga Canadensis" Brit. Columbia, Alaska and Western U.S.A. | 31 | Pale greyish yellow with well marked growth rings | Straight grain. Even texture | ND | Medium | I | | F to I | | Internal | A light weight wood, better for joinery than carpentry since it tends to split in nailing. Works readily but not so easily as Redwood. Free from resin and therefore finishes very well |
| PARANA PINE "Arancaria Angustifolia," South America | 34 | Pale to dark brown with red streaks. Sapwood white | Mostly straight grained. Close texture | MD | No data: assumed large | II | | F | | Internal | Easy to work though less mild than Redwood, and tends to split. Takes a very smooth finish and can be stained, polished or painted without difficulty |
| PINE, YELLOW "Pinus Strobus," East of North America (White Pine, Quebec Pine, Weymouth Pine) | 26 | Pale straw to light reddish brown | Straight grain. Even texture | ND | Small | III | | As Hardwood Group C | | Internal | Finest of high quality softwoods, both durable and stable. Works very easily and takes excellent finish. Used for high class joinery and pattern making. Western White Pine and Sugar Pine are only slightly inferior to this wood |
| REDWOOD "Pinus Sylvestris," Northern Asia and Europe (Fir, Red or Yellow Deal, Scots Pine) | 31 | Yellowish to reddish brown with cream sapwood | Texture varies | ND | Medium | I | | F to H | | Internal and external including cills | Used for all building work from carcassing to joinery. Easy to work and finish. Contains frequent knots but these are normally small and solid. Sapwood not durable and requires preservative treatment if used externally |
| WESTERN RED CEDAR "Thuja Plicata," Brit. Columbia and U.S.A. (Giant Arborvitae) | 24 | Variable reddish brown with lighter sapwood | Straight grain. Soft texture | D | Small | II | | E to H | | Internal and external including cills. Need not be treated for external use | Easy to work but rather too soft for normal joinery. Contact with unprotected iron causes stains and corrosion. Specially suitable for weatherboarding or positions where its exceptional resistance to decay is an advantage. No botanical relationship with the Cedar (Cedar of Lebanon). Cheaper grades not very useful for joinery |
| WHITEWOOD "Picea Abies," Northern and Central Europe | 29 | White to light yellow | Small knots common | ND | No data: assumed medium | I | | G to I | | Internal | Strength properties not as high as Redwood but adequate for most internal joinery. Used generally in Scotland in place of Redwood. This is not to be confused with American Whitewood which is a light hardwood imported in large quantities before the war for interior joinery |

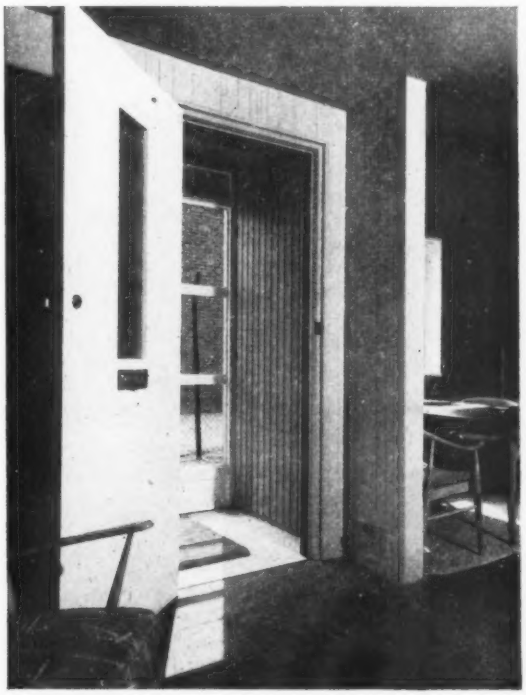
technical section

# A WARM-AIR HEATED PREFABRICATED HOUSE



*In 1949 a series of Information Sheets were published describing the Keylock system designed by Robert Henderson and patented by his firm Robert Building Inventions Ltd. The system was designed round a clip for use with aluminium buildings and the principle of the same clip has now been incorporated into a wooden prefabricated house having warm air heating in the fullest sense of the word. A central oil-fired burner (below) with an output of 84,000 B.Th.U.'s—sufficient to maintain 70° F. inside when external temperatures are 20° F. below—supplies the low level air inlet ducts on the perimeter of the house. High level extraction into the roof space re-circulates the air at a rate of 5 air changes per hour. As the fresh air inlets are placed in the eaves, and used air travels via the roof space to the burner, the burner air intake is, in fact, a mixture of cold and partially heated air. Running costs vary but in a hard winter the makers, Waterbury Ltd., claim that the average cost per week should be about £1. Construction is based on a system of 3½-in. square studs with a 1¼-in. × 2½-in. hardwood parting strip. This strip acts as a parting bead for the adjoining panels and being hardwood (or whatever the cladding material is) makes the whole wall appear homogeneous rather than panelled. The studs are fixed at 40-in. centres with ½-in. bolts built into the concrete edge beams. The wall panels, both external and internal, simply snap into position, into the clips (see drawing on page 310). U for the finished wall is 0·14, the section comprising ¾-in. western red cedar backed with building paper and screwed from behind to the main panel frame. These*



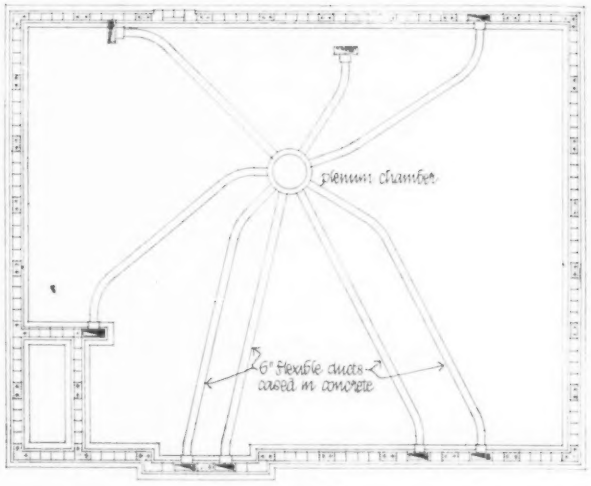


technical section

# A WARM-AIR HEATED PREFABRICATED HOUSE continued



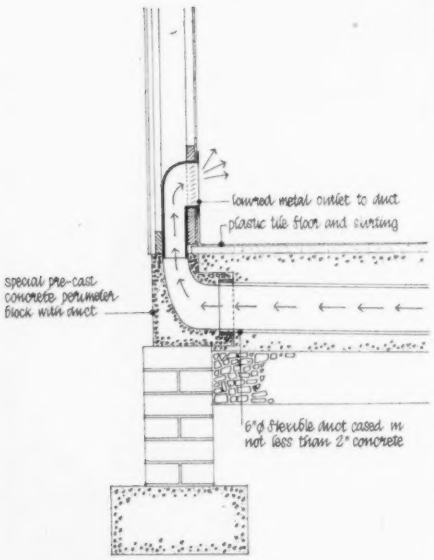

Floor plan

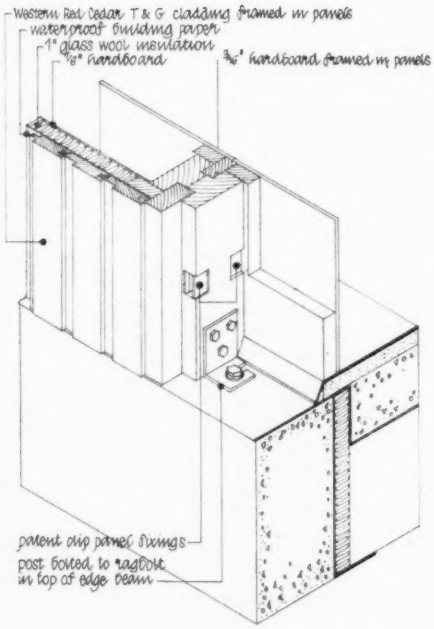



Plan of heating ducts



*frames are infilled with glass wool which is retained in position by hardboard and building paper nailed to the frames. A 3⅜-in. cavity is provided and the inner leaf consists of 3/16-in. foil backed hardboard. In this manner a 5½-in. cavity wall has 4 thermal and waterproof membranes and is built in such a fashion that the Ministry of Health now recognises the house as traditional housing, eligible for a 60 year loan consideration. Thermoplastic tiles are laid on 1-in. screed and the main floor consists of a 6-in. concrete slab set on a damp-proof course and hardcore. The walls and studs are fitted to an edge beam as was stated on page 309. In the case of the house at Iver shown on these pages these beams were cast in situ, but future houses are to have pre-cast edge beams with a special pre-cast unit to turn the floor air ducts up into the perimeter grills. Further refinement on the floor ducts will be the incorporation of bitumen-paper covered flexible metal tubes to replace the original 4-in. drain pipes. In this manner site work will be further reduced so that erection time will be a maximum of three men for seven days. Cost varies with distance, site works and local conditions but ranges from £2,000 to £2,300.*




Above : section through perimeter duct. Right: detail of wall construction

building illustrated

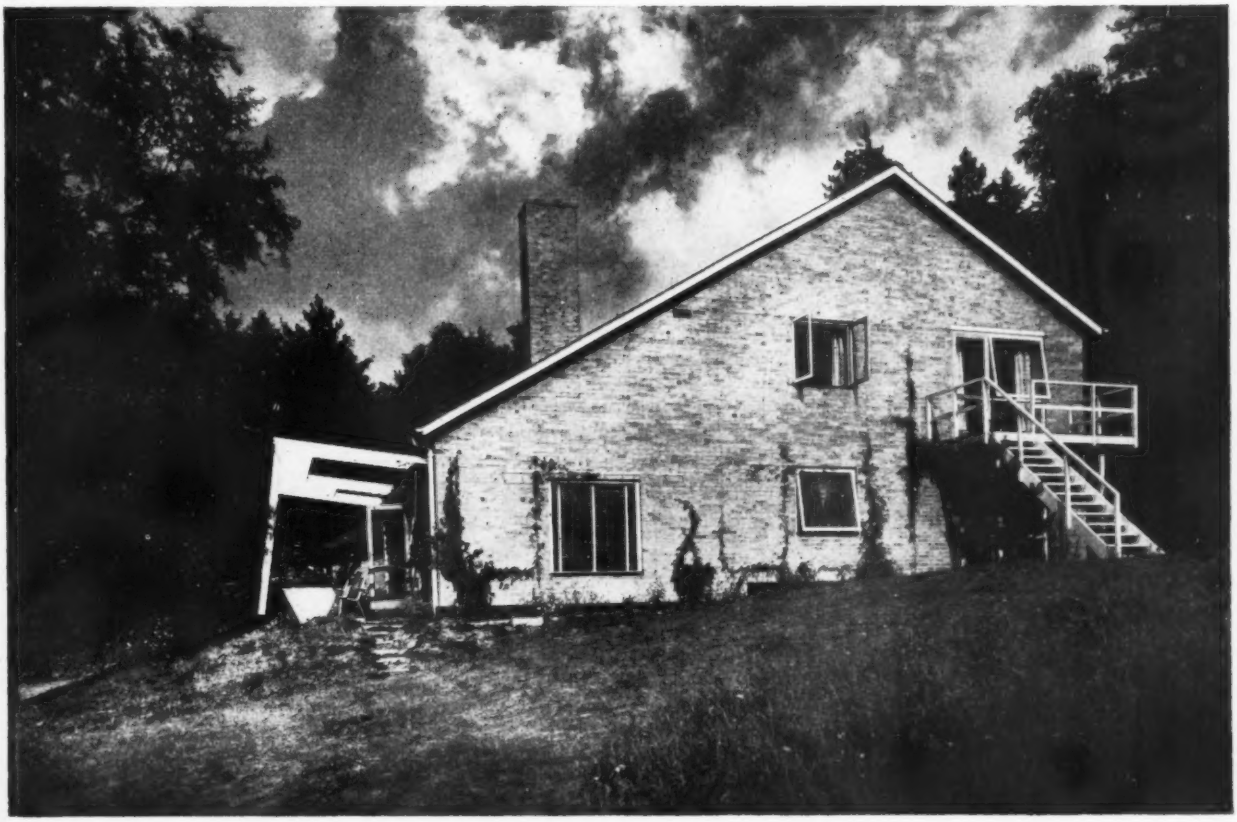
# HOUSE

in NEW ROAD, DIGSWELL, WELWYN, HERTS.

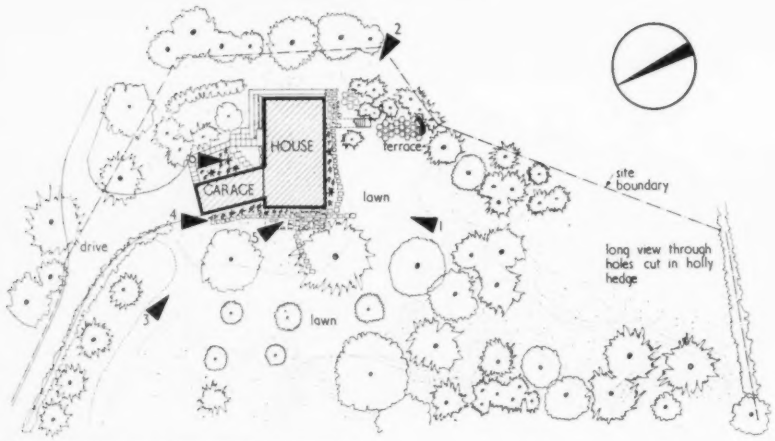
designed by MAURICE LEE

This house at Digswell is the first house designed by an architect for his own occupation to be analysed in the JOURNAL. The house has also been in occupation long enough (tender date August, 1953) for the extensive planting layout, both surrounding the house and indoors, to be appreciated from the photographs. The gross cost, including site works and drainage, was £4,433, with the cost per sq. ft. 54s. 4d. The floor area is 1660 sq. ft. including half the area of porch, stores and garage. A description of the heating system in the house appeared on page 56 of the JOURNAL for July 12, 1956.

Viewpoint 1, from the south.



**building illustrated**




Key plan showing photographic viewpoints



## HOUSE

at DIGSWELL, WELWYN, HERTS.

designed by MAURICE LEE

Above right (viewpoint 2): the slatted balcony to the main bedroom forms a verandah to the ground floor bed/sitting room. It commands a long view over the valley and can be approached from the garden by a staircase. Below (viewpoint 3): from the north-west. The slate roof continues at 30 deg. pitch over the single-storey living room end of the house. The walls are faced with mild London stock bricks. The roofing is grey-blue Festiniog slate. The projecting garage is planned along the contours and screens the garden from the entrance court. The workshop window is on the left.



**building illustrated**





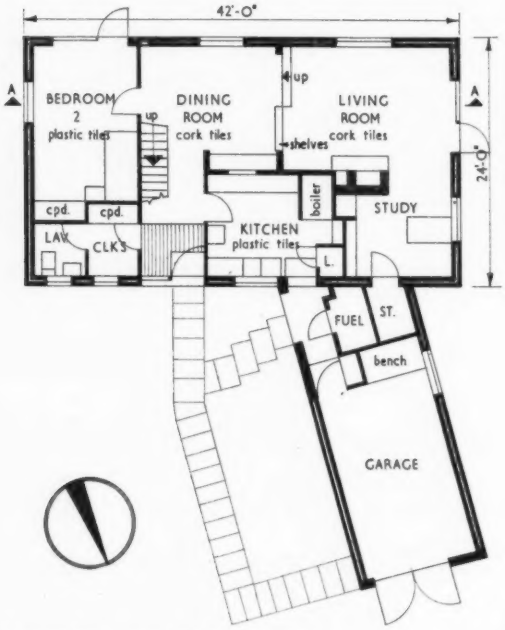
Above (viewpoint 4): a flagged path along the bank (which has been sown with red fescus grass to be left rough) leads to the living room terrace. The pergola supports have been planted with aristolochia sipho, wistaria sinensis and actinidia chinensis. Gaps are left in the pergola rafters to correspond with the windows below and thus to admit reasonable light when the planting matures. Right: this view of the living room terrace, from viewpoint 5, shows the two main window assemblies standardized throughout the house. On the left are double-opening side-hung casements fitted with built-in espagnolette bolts on one casement and lever action flush bolts on the other. Both casements have friction stays. On the right is the casement door assembly. The door has an espagnolette bolt in the locking stile and the top-hung window in the bottom rail. All panels are glazed. The pergola is constructed entirely of 4 in. by 1 in. softwood and is canted up 7½ deg. to avoid obstruction by the fascia of the view down to the wood. Below (viewpoint 6): the entrance from the north-east side of the house is flanked by the garage wing which screens the living room terrace from view. An entrance court has been designed here with a small lawn enclosed on the north and east by a steep bank planted with roses and wild cherry. The planting contained by paving includes several varieties of pot herbs. This view shows the main entrance door which is mahogany veneered and oiled. Broad reeded glass is used in the side panels. To the right is the kitchen window.



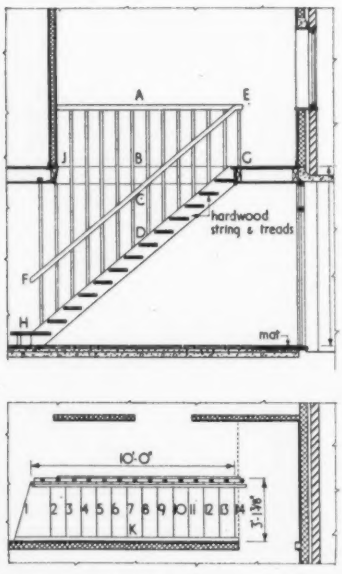
**building illustrated**




First floor plan



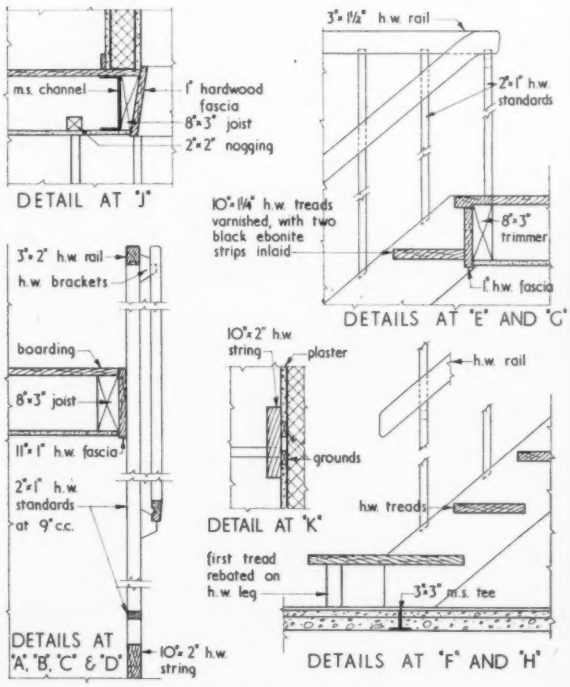

Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]




Key plan and section of staircase
[Scale: $\frac{1}{8}$" = 1' 0"]

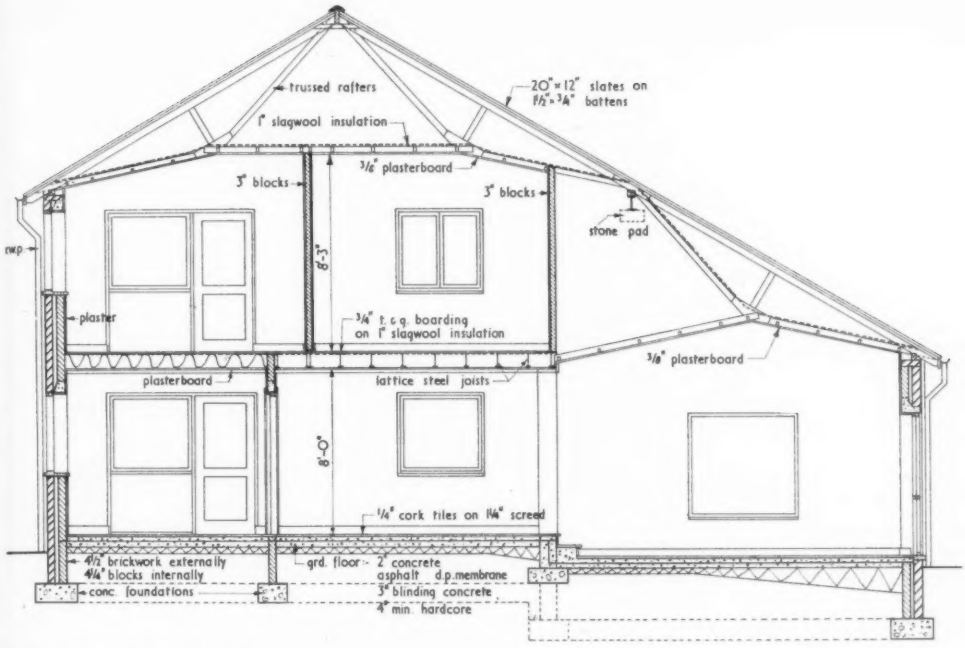


Entrance lobby and staircase from the dining area. The staircase is of solid mahogany with treads wedge-tenoned to the strings. Each nosing is inlaid with black ebonite strips. The flush front door is mahogany veneered and the side panels are glazed with reeded glass. The black and white striped curtain can be drawn across to control the passage of circulated warmed air upwards into the staircase well. The wall on the right is grey-green (BS 2660/55 Colour 5-060). The other walls are white.




Detail sections of staircase [Scale: $\frac{1}{2}$" = 1' 0"]

**building illustrated**




Section A-A [Scale: ⅛" = 1' 0"]

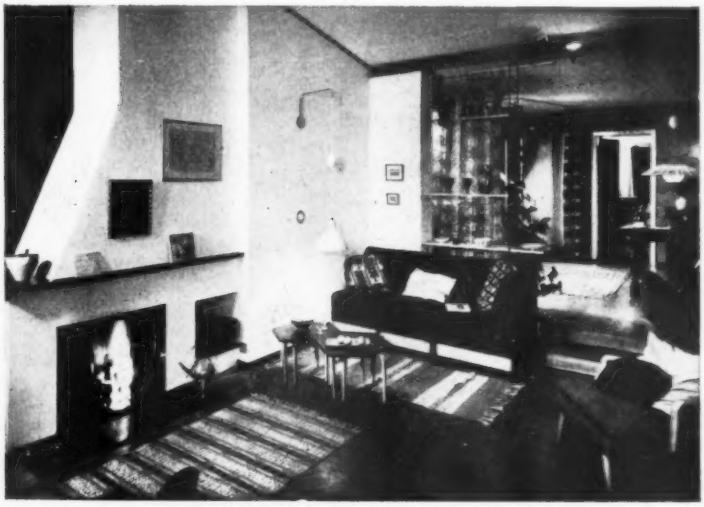
## HOUSE

at DIGSWELL, WELWYN, HERTS.

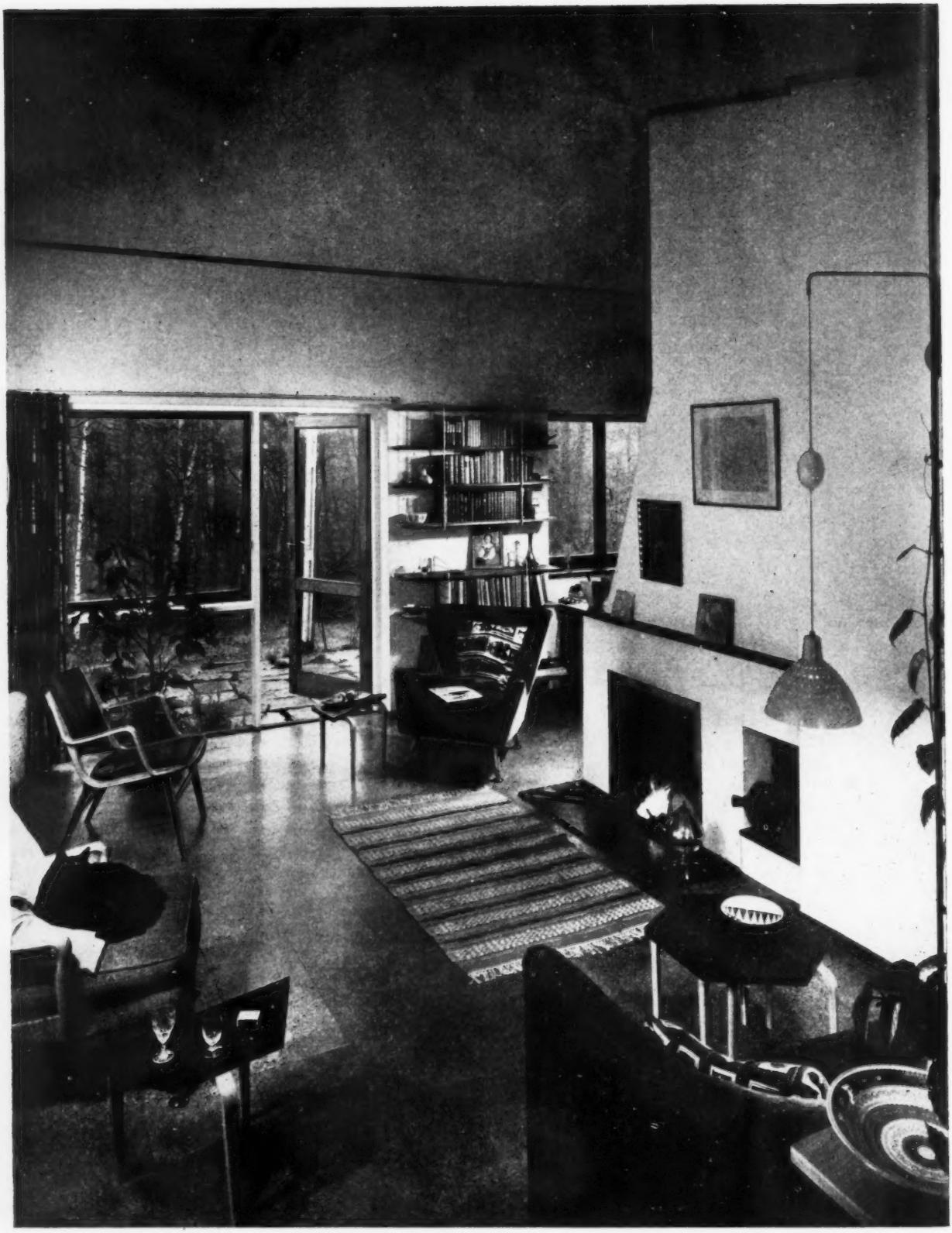
designed by MAURICE LEE

The plan shows the arrangement of living accommodation around the kitchen and heating "core." The study area is treated as an open extension of the living room with which it can be included when required. One bed-sitting room is on the ground floor and has a terrace with verandah formed by the balcony to the main bedroom above. Below left: a corner of the dining area showing the sliding plate glass hatch connecting with the kitchen and the "stable" door beyond to the kitchen porch. To the left there is a glimpse, through open shelving, to the living room at the lower level. The thermostat to the right of the shelves controls the heat exchanger. The wall surrounding the hatch is yellow green. (BS Colour 0-009). All other walls are white. Below right: a long view from the living room through the dining area and into the ground floor bed-sitting room. The hearth and shelves are of polished slate and the fireplace surround of burnished brass. The flooring throughout the living areas is cork tile. The fireplace wall is white and the end wall grey-green (BS 5-060).



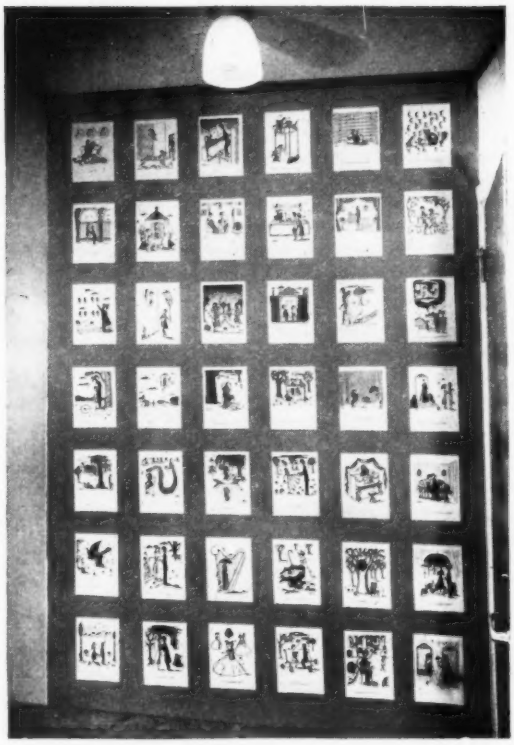


**building illustrated**



The living room from the dining area. The study is beyond the projecting chimney breast to the right. A casement door leads on to the terrace with its view down into the wood. In this area, which is single storey, the ceiling is double pitched. Walls are white. The suspended light fitting is yellow (BS 0-001).

**building illustrated**



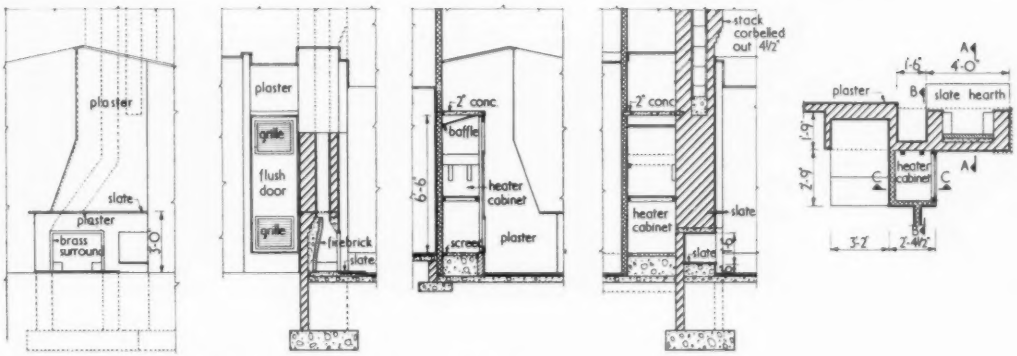


## HOUSE

at DIGSWELL, WELWYN, HERTS.
designed by MAURICE LEE

Above: a wall in the cloakroom is decorated with forty-two black and white drawings by Raymond Peynet on a blue background (BS 7-084). Plan below: the heating " core " of the house consists of a chimney stack with two flues, the boiler in the kitchen and a long fire-place in the living room, and the warmed air circulation unit which is situated at the lowest point of the house in the study area. The hearth and shelves are of polished slate and the fireplace surround of burnished brass. Above right: the warmed air circulation unit is placed behind the chimney breast in the study area which is at the lowest point of the house. The boiler is immediately behind it in the kitchen. This photograph, taken from the study, shows the double pitched ceiling and the large fixed glazed window on the south side of the living room. Right : a photograph taken before decoration of the boiler alcove in the kitchen. A ceiling trap in the kitchen gives access to a first floor loft, in the roof of the single storey area, in which all plumbing is accessible. All walls in the house were finished with a setting coat of pink plaster and decoration was deferred until drying out was complete. The walls to the left of this picture are now painted white and the boiler alcove a deep red (BS 1-024). Doors to cupboards fittings are yellow-grey (BS 4-048).






Elevation, sections and plan of heating core [Scale: ½" = 1' 0"]

**analysis**

# HOUSE

at DIGSWELL, WELWYN, HERTS.

designed by MAURICE LEE

## CLIENTS' BRIEF: their stated requirements

House required by the architect and his wife for themselves and one daughter to provide living accommodation, study area and three bedrooms. As an open plan was required, a self-contained bed/sitting room was to be designed with direct access to its own garden terrace for their daughter.

## SITE: topography, surroundings, access, planting

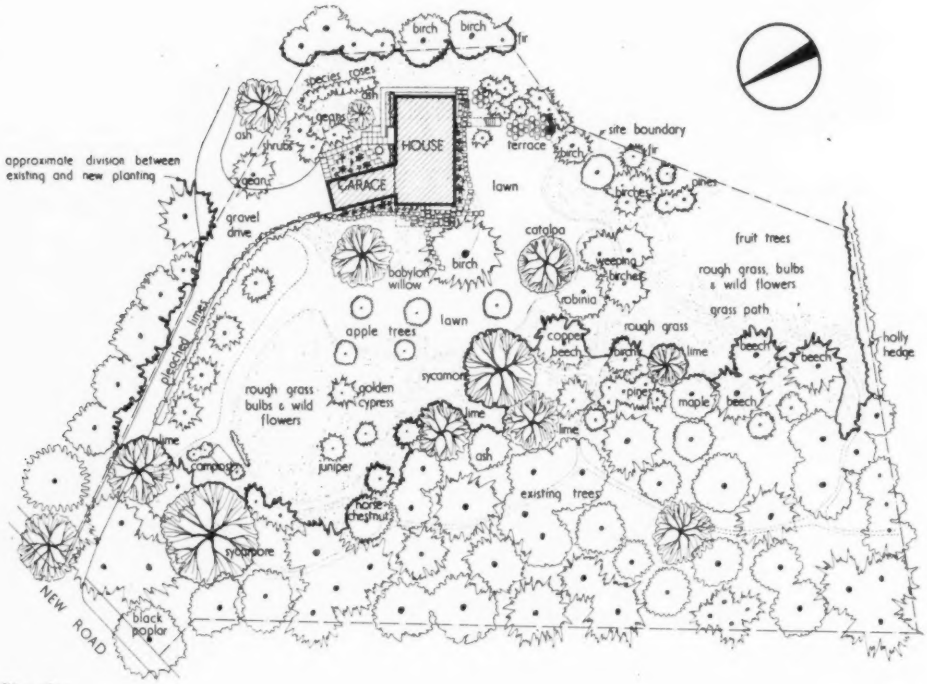
Area of site 1·5 acres approximately. Rising ground above Mimram River valley, sloping to west with sub-soil of chalk with seams of clay. Farmland to south, residential properties, well surrounded by mature trees to east and west; road to north screened by trees. Access by drive from road to north. Small wood of mixed deciduous trees and some conifers planted about 1910 occupies lower side of site to west. Considerable shrub and fruit planting added in 1939 by previous owner in preparation for building which was abandoned. This has been trimmed where necessary and further planting of trees, shrub and bush roses added. Many varieties of clematis and other climbers have been planted on house and surrounding trees.

## PLAN: general appreciation and relation of units

Drive mounts contours on north-east side and arrives at small plateau at highest point on site. It was decided to build here at right angles to the contours with a change of floor level down to the living room and again on to a small terrace with pergola at the west end. This provides a succession of views within and through the house from entries on the north through dining and living areas to the study area at the north west corner. Entrance, dining, living and study are inter-communicating and planned around the kitchen with chimney stack and heating "cone" with warmed air circulator placed at the west point. This allows bed/sitting room to be placed along east end of ground floor with windows to east and south and terrace to south. First floor contains main bedroom along east end with windows on north, east and south sides and balcony with stairs down to garden; also one spare bedroom and bathroom. Projecting garage meets drive, screens garden and forms small entrance courtyard. West end of house is single storey.

## MAIN CONSTRUCTION: general appreciation

Covenants on site dictated reasonably conventional exterior. External shell of cavity brickwork and concrete block was therefore chosen with slate roof. Light timber trussed rafters used to free interior of house from load bearing requirements and to allow free planning.




Site plan

| cost per sq. ft. | s | d |
|---|---|---|
| preliminaries and insurance | 5 | 2 |
| contingencies | 1 | 1½ |

## STRUCTURAL ELEMENTS

| *Work below ground floor level: foundation type* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Strip foundations | All main load-bearing walls | Concrete, mesh reinforced over clay pockets | | Sub-soil varied from pure chalk and marl to red and blue clay. 12 in. change of level between dining and living areas. |
| Ground slab | All ground floor | Concrete | | |

| work below ground floor level | 5 | 11½ |
|---|---|---|

## analysis

| *External walls and facings* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| 11-in. cavity walls | Perimeter of house | London stock milds and 4½-in. cellular clinker blocks | Flush pointing | Reasonable cost, freedom from maintenance |
| 9-in. cavity walls | Garage | London stock milds and 3-in. cellular clinker blocks | | |

**external walls and facings** — s 7 d 9

| *Internal load bearing element* | *Location* | *Materials* | *Beam spans* | *Column grid* | *Reasons and comments* |
|---|---|---|---|---|---|
| 9-in. × 4½-in. walls | Centre spine | Common bricks | | | To carry floor loads and point loads from trimmers |
| 3-in. walls | General | 3-in. cellular clinker blocks | | | |

**internal walls and load bearing partitions** — 1 9

| *Upper floor construction* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| 8-in. joists | All upper floors excluding landing | 6-in. deep welded steel lattice with 1-in. timber fillers | | Timber licensing still in force at time of tender |
| 8-in. joists | Landing | 8-in. × 1-in. softwood | | Uneconomical spans for lattice beams |

**upper floor construction** — 1 3½

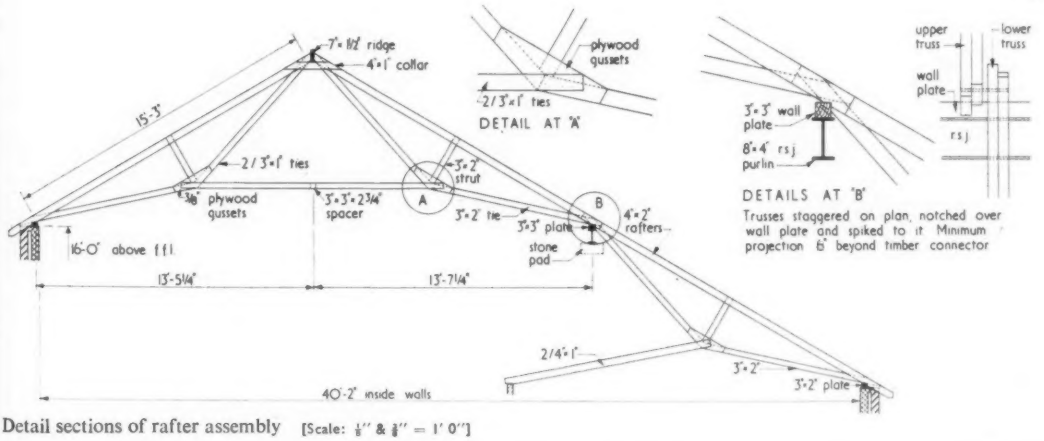
| *Staircases* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Internal | Entrance | Mahogany | 2 coats synthetic varnish black ebonite strips inlaid in nosings | Open risers used on account of restricted space |
| External | Balcony | Softwood | Primer and 2 coats white paint | Balcony required to be accessible from garden as tea-terrace |

Height: floor to floor—8 ft. 9 in.
Width between landings—3 ft. 0 in.

**staircase** — 1 4

| *Roof construction* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Special light trussed rafters—span 13 ft. 6 in. on plan | House roof | Softwood with timber connectors | 30° pitch | Trusses designed to allow complete freedom for internal partitions |
| 3-in. × 2-in. rafters. Festiniog slates | Garage roof, house and garage | 20-in. × 10-in. slates on sarking felt | | |

**roof** — 7 10




Detail sections of rafter assembly [Scale: ⅛" & ¼" = 1' 0"]

| *Windows* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Softwood frames | All windows | Softwood | Painted | Purpose made with built-in Swedish espagnolette bolts to all casements and casement doors, and draught-proofed with woven wool cord |
| Hardwood opening lights | | Agba lights | Raw linseed oil | |
| Casement doors and sills | | Teak and iroko sills | Raw linseed oil | |

| *External doors* | *Location* | *Materials* | *Finish* | *Reasons and comments* |
|---|---|---|---|---|
| Solid door | Entrance | Mahogany veneer | Raw linseed oil | Glazed panel 3 ft. wide beside door and fanlight |
| Half glazed framed and battened | Kitchen porch | Softwood | Painted white | "Stable door" with top half glazed (reeded glass) |

**windows and external doors** — 2 3½

**analysis**

| *Glazing* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| Sheet glass | Most windows | 32 and 24 oz. | | Windows up to 4 ft. square | | |
| Plate glass | Large fixed window | ¼-in. plate | | Main view window | | |
| Reeded glass | Entrance doors | Broad reeded | | Semi-obscurity required | | |
| | | | | **glazing** | | 5½ |

## PARTITIONING

| *Internal partitions* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| 3 in. | Most partitions | 3-in. cellular clinker blocks | Plastered both sides | | | |
| | | | | **internal partitions** | 2 | 3 |

| *Screens* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| Kitchen hatch | Between kitchen and dining | Mahogany frame and shelf sliding and fixed plate glass shelf | Two coats synthetic varnish | To provide semi-screened view in both directions with direct communication between kitchen and dining | | |
| | | | | **screens** | | 1½ |

| *Internal doors* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| Solid | All doors | Beech facing | Two coats synthetic varnish some painted white | | | |
| | | | | **internal doors** | 1 | 2 |

| *Ironmongery to internal doors* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| Lever handles | All doors | Anodised aluminium | Satin finish | | | |
| | | | | **ironmongery to internal doors** | | 10 |

## FINISHINGS

| *Floor finishes* | *Location* | *Materials* | *Finish* | *Cost per sq. yd. of each type* | s | d |
|---|---|---|---|---|---|---|
| Cork | Ground floor excluding kitchen and cloakroom | ¼-in. × 12 in. × 12 in. cork tiles | Two coats plastic polish rubbed down to semi-gloss | 30s. Warm, quiet, very easily maintained | | |
| P.V.C. sheet | Kitchen and bathroom | 6 ft. wide sheet | Self | 23s. Hard wear, grease resistant | | |
| Studded rubber | Cloakroom and W.C. | ⅛ in. × 12 in. × 12 in. tiles | Self | 26s. quite easily cleaned | | |
| | | | | **floor finishes** | 1 | 9½ |

| *Wall finishes* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| Tiling | Kitchen-sink area bathroom bath area | 6-in. × 6-in. white glazed tiles | | | | |
| | | | | **wall finishes** | 1 | 1 |

| *Ceiling finishes* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| Insulation board | All ceilings | ½-in. fibreboard v-jointed<br>1 in. slag-wool insulation | Emulsion paint and distemper | To give sound absorption and increase thermal insulation to allow movement of light roof and floor construction without cracking | | |
| | | | | **ceiling finishes** | 1 | 1 |

| *Decorations* | *Location* | *Paint type* | *Munsell or other ref.* | *Colour scheme and comments* | s | d |
|---|---|---|---|---|---|---|
| Ceilings | Bathroom and kitchen | Distemper—two coats | White | See photo captions | | |
| | Other ceilings | Emulsion—two coats | White | | | |
| Softwood doors and frames | External doors and windows, internal door frames | Primer undercoat and two finishing coats | White, grey green and yellow grey | | | |
| All other interior decoration left for finishing by owner after drying out period | Bathroom and kitchen walls | Primer and two coats egg-shell oil | White and various | See photo captions | | |
| | All other walls | Emulsion—two coats | | | | |
| | | | | **decoration** | 1 | 2 |

| *Other fittings* | *Location* | *Materials* | *Finish* | *Reasons and comments* | s | d |
|---|---|---|---|---|---|---|
| Cupboard shelving | Stove | Softwood | | | | |
| Book shelves | Study area | Mahogany | | | | |
| | | | | **other fittings** | | 3 |

**analysis**

| | | | | | s | d |
|---|---|---|---|---|---|---|
| *Kitchen equipment* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Cupboards | Kitchen | Softwood and plywood | Painted grey and white | EJMA standard units | | |
| | | | | **kitchen equipment** | | 4 |

## SERVICES

| | | | | | | |
|---|---|---|---|---|---|---|
| *Plumbing: external* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Waste disposal | Single stack for bathroom | Cast iron | Painted | | | |
| *Rain water disposal* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Gutters and drain-pipes | | Cast iron | Painted | | | |
| | | | | **plumbing: external and rainwater disposal** | 1 | 1 |
| *Hot water storage* | *Location* | *Materials* | *Capacity* | *Reasons and comments* | | |
| Cylinder | Bathroom cupboard | Galvanised steel | 30 gallons | Indirect circuit | | |
| *Cold water storage* | *Location* | *Materials* | *Capacity* | *Reasons and comments* | | |
| Tank | Bathroom cupboard | Galvanised steel | 40 gallons | | | |
| Break tank | Bathroom cupboard | Galvanised steel | 10 gallons | Feed and expansion for heating system | | |
| *Plumbing: sanitary fittings* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Fireclay sink, basins and W.C.'s and W.W.P.s | Kitchen, bathroom and cloaks W.C. | Fireclay glazed white | | Strong resistance to cracking | | |
| | | | | **hot and cold water storage and plumbing, internal** | 1 | 6½ |
| *Heating installation: heat exchanger type* | *Location* | *Criteria temp.* | *Air change rate* | *Reasons and comments* | | |
| B.T. hot water heater battery and fan to circulated warmed air heater cabinet | Study area | 25 –30° rise over outside temperature | | House planned for easy circulation of warmed air from lower point in ground floor living area | | |
| *Boiler type and capacity* | *Location* | *Heat load and fuel type* | *Stoking method* | *Reasons and comments* | | |
| Solid fuel—35,000 B.T.U. | Kitchen | Coke beans, anthracite, etc. | By hand | Supplies all domestic hot water and whole house heating | | |
| *Water heater type* | *Location* | *Fuel type* | *Stoking method* | *Reasons and comments* | | |
| Immersion heater | Cylinder | Electricity | | For summer use only | | |
| | | | | **heating installation, boiler type and capacity and water heater type** | 1 | 11½ |
| *Drainage: type of system* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Septic tank | Towards road boundary | Brick and concrete | Rendered internally | Shared with neighbour. Site so that connections can be easily made with main sewerage scheme when installed in road | | |
| *Drain types* | *Location* | *Materials* | *Finish* | *Reasons and comments* | | |
| Salt glaze stoneware | Throughout | | | | | |
| | | | | **drainage: type of system and drain types** | 2 | 2½ |
| *Electrical installation: source and fitting type* | *Location* | *Illumination level* | *Quality* | *Reasons and comments* | | |
| Various pendant and wall fittings | | | | | | |
| *Wiring and switching types* | *Location* | | *Materials* | *Reasons and comments* | | |
| 13 amp. power circuit to B.S. 1363 3 0·029 2c T.R.S. cable semi recessed round white switches | | | White plastic on circular steel plate stove enamelled grey | | | |
| *Power supply type* | *Location* | | *How distributed* | *Reasons and comments* | | |
| Domestic consumer unit 60 amp. D.P. main switch | Kitchen pantry | | | | | |
| | | | | **electrical installation** | 1 | 4 |

**analysis**

| | | | | s | d |
|---|---|---|---|---|---|
| *Paved areas* | *Location* | *Materials* | *Reasons and comments* | | |
| P.S. paving | Entrance courtyard | Pre-cast concrete | | | |
| Hoggin | Drive from road | Hoggin on hardcore | | | |
| | | | **paved areas** | **1** | **2** |
| | | | **total net cost per sq. ft. of floor** | **54** | **4** |
| | | | **(1660 sq. ft. incl. garage and half porch area)** | | |

## THERMAL INSULATION

| *Type* | *Location* | *U-value* | *Reasons and comments* |
|---|---|---|---|
| Cavity walls—4½ in. brick 2 cavity plus 9 ½-in. cellular clinker block | All external walls | U = 0·17 B.T.U. | Good insulation values advisable with whole house heating |
| Roofs—slate on thick felt 1-in. slagwool over ceiling of ½-in. insulation board | All ceilings | U = 0·15 B.T.U. | |

## SPECIAL ACOUSTICAL TREATMENT

| *Sound absorption material* | *Location* | *Absorption coefficient* | *Reasons and comments* |
|---|---|---|---|
| ½-fibre board | All ceilings | 0·25 | |

| *Sound insulation* | *Location* | *Insulation standard* | *Reasons and comments* |
|---|---|---|---|
| Partition walls | Internally | 40 d.b.—45 d.b. reduction | |

## TIME SCHEDULE

| *Drawings* | *Tender date* | *Work completed* | *Contract signed* | *Work commenced* | *Type of contract* |
|---|---|---|---|---|---|
| May-July, 1953 | July-August, 1953 | March, 1954 | August 28, 1953 | September, 1953 | RIBA without quantities. House occupied within 6 months of start date |

## RATIOS

| | | | |
|---|---|---|---|
| Area of enclosing walls / Total floor area | 1·44 / 1 | Area of window (incl. ext. doors) / Total floor area | 0·20 / 1 |
| Area of solid wall / Total floor area | 1·24 / 1 | Total roof area / Total floor area | 0·84 / 1 |

## COST COMMENTS

The following points are worth noting:

(*a*) In the study of individual rates within this analysis, the figure for preliminaries and insurances pulled out separately is relatively high, e.g., double those for the bungalow at Hertingfordbury (AJ, July 19, 1956).

(*b*) Using the floor to wall ratios shown, the external wall cost is 48*s*. 9*d*. per yard super of solid walling against the average of 29*s*. 9*d*. per yard super on the bungalow.

(*c*) The architect has not been able to plan out the effect on the works below ground of the steeply sloping site.

(*d*) The roofing element is more expensive than one might have expected from an unbroken span roof of low pitch even allowing for slate covering.

(*e*) The heating installation reviewed in the AJ on July 12 proves very economical to install.

(*f*) In this instance the net cost per sq. ft. includes the whole of the drainage and septic tank, an amount usually excluded.

## CONTRACTORS

*General contractors:* M. & F. O. Foster & Co Ltd. *Sub-contractors: Floor finishes:* Haskel Robertson & Co. Ltd. *Warmed air heating:* Weatherfoil Heating Systems Ltd. *Electric wiring:* Hartley Installations Ltd. *Textiles:* Dunn's of Bromley. *Agavector:* Aga Heat Ltd. *Door furniture:* James Gibbons Ltd. *Window furniture:* Tomo Trading Co. Ltd. and James Gibbons Ltd. *Sanitary fittings:* Adamsez Ltd. *Taps:* Barking Brassware Co. Ltd. *Sun blinds:* J. Avery & Co. Ltd. *Paint:* John Hall & Sons Ltd.



working detail



# GRILLROOM WINDOW: LONDON AIRPORT

*Frederick Gibberd, architect*



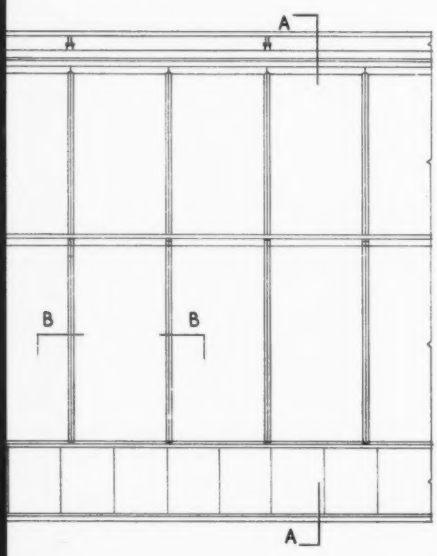
*The lower light is tilted forward so that people sitting near the window at night will not have their view obstructed by their own reflections. To reduce reflection to a minimum the ceiling is painted midnight blue. The structural parts of the window are systematically enclosed in pressed mild steel casings which were delivered to the site in preformed sections and welded. The vertical casings also conceal the mechanism for operating the Venetian blinds. It will be noted that the glazing passes in front of the structure and that support is only provided at points which are invisible from inside the grillroom.*

working detail



# GRILLROOM WINDOW: LONDON AIRPORT

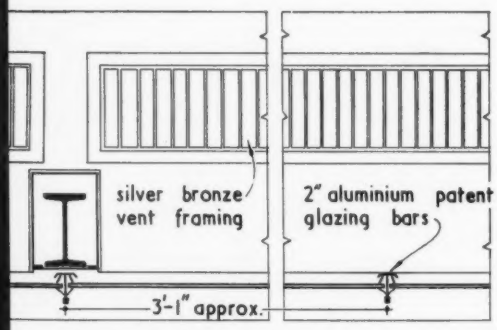
*Frederick Gibberd, architect*



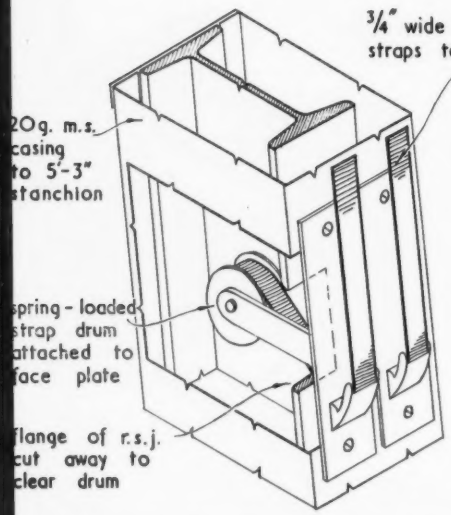

ELEVATION



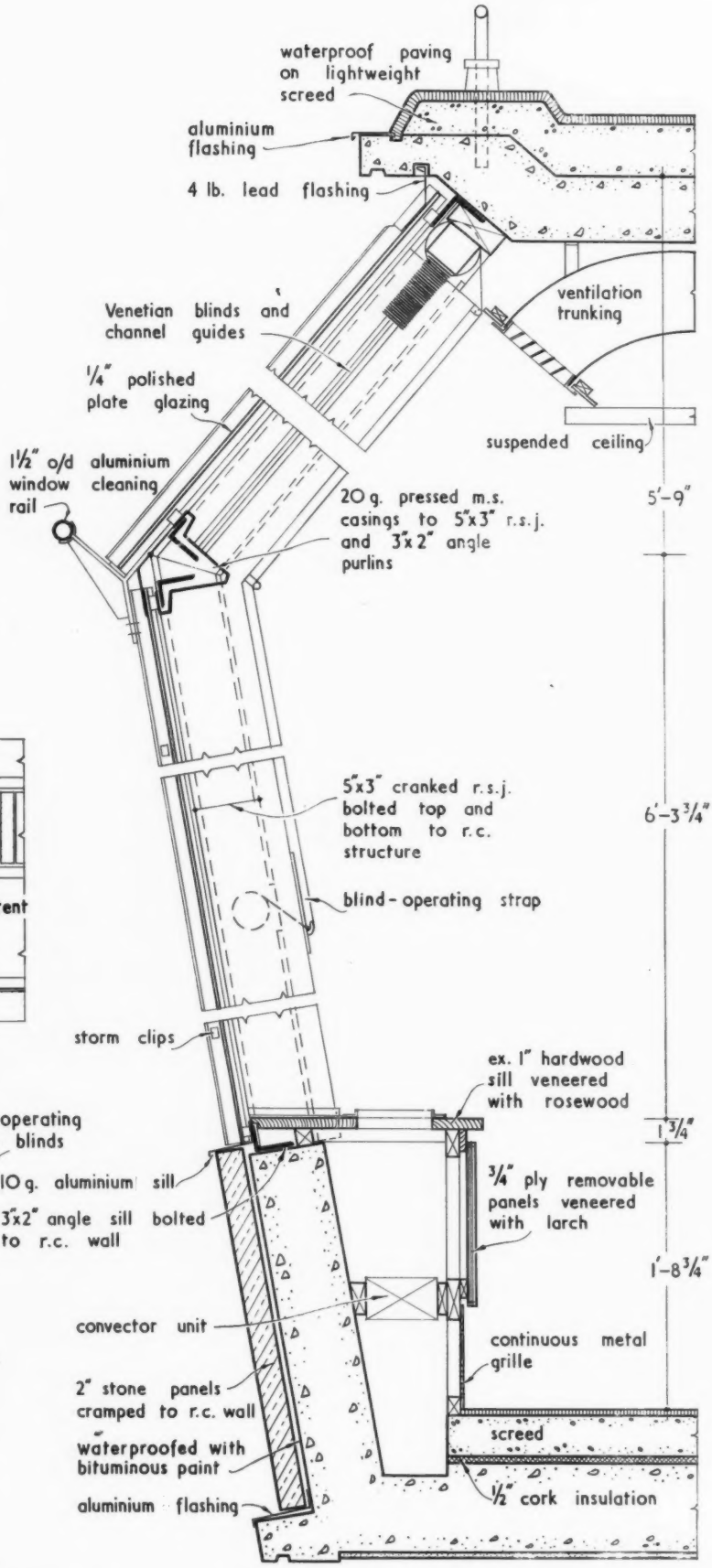
PLAN scale 3/16" = 1'-0"




PLAN AT B.B. scale 1" = 1'-0"




ISOMETRIC OF CONCEALED STRAP DRUM.



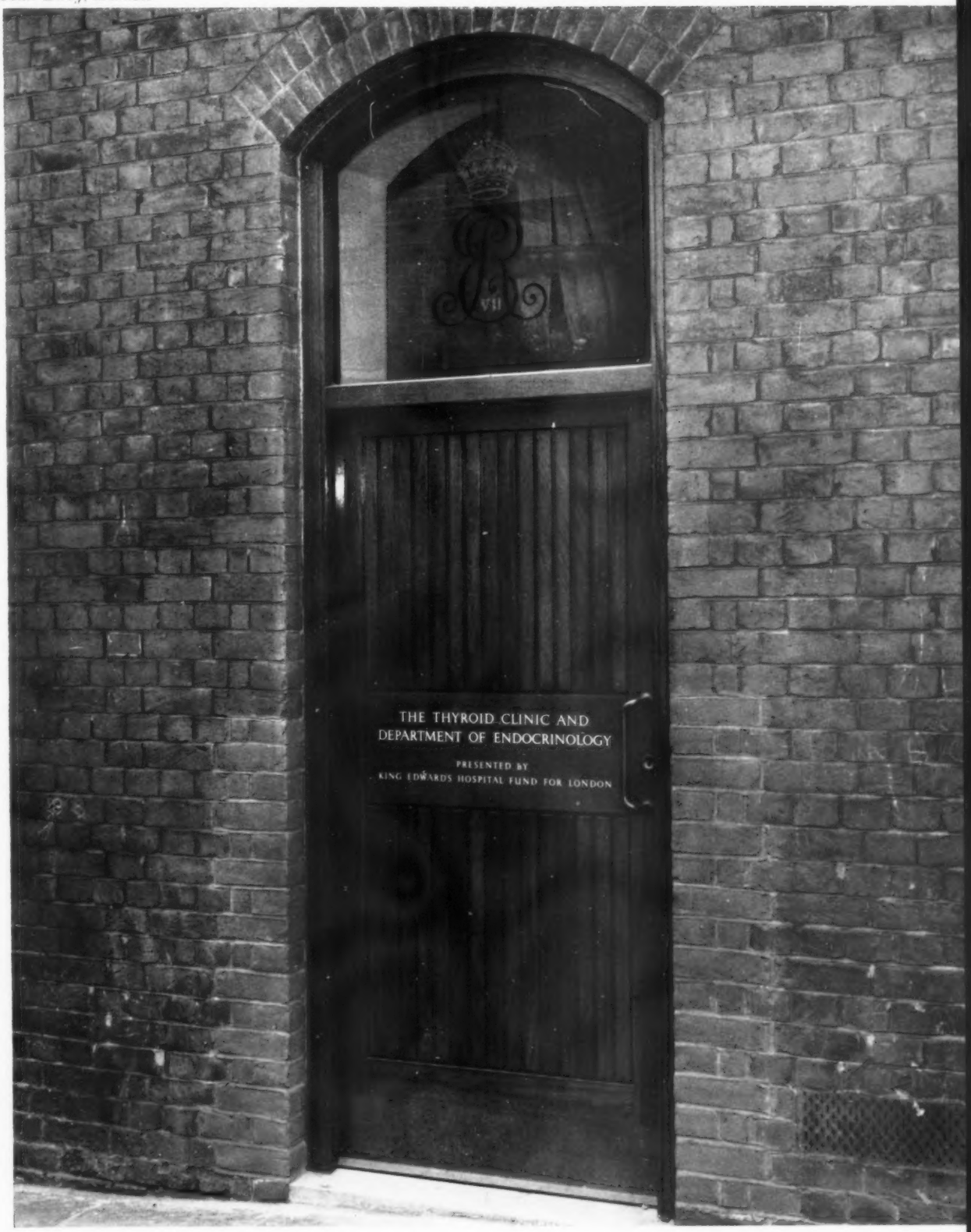

SECTION A.A. scale 1" = 1'-0"

**working detail**

**DOORS: 26**

ENTRANCE DOOR: HOSPITAL IN LONDON N.W.3

*John Lacey, architect*



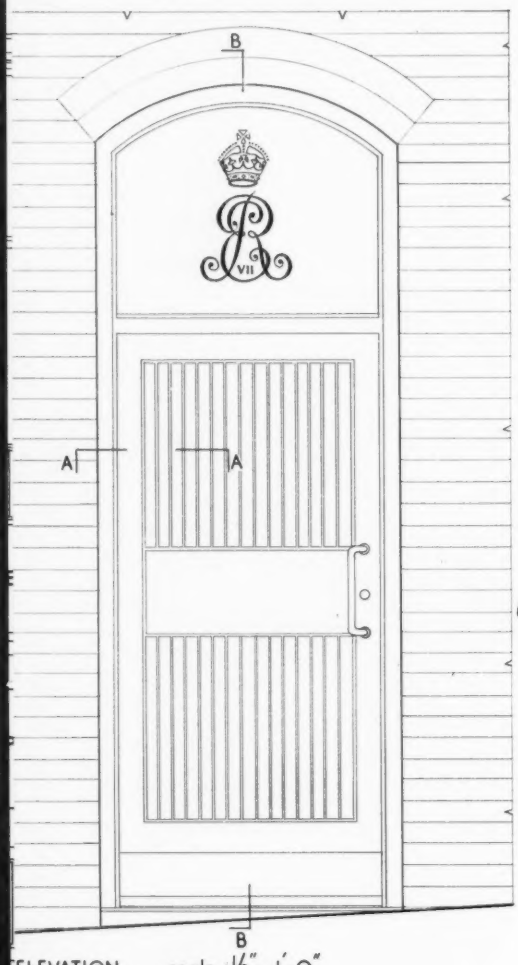

*This external door is fixed in an existing door opening. The name-plate is stove-enamelled mild steel. The cipher in the fanlight is etched on ¼-in. plate glass.*

working detail

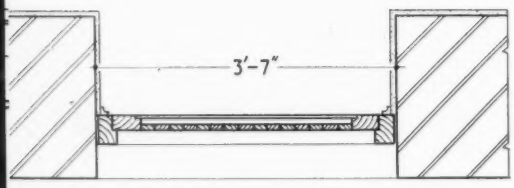
DOORS: 26

# ENTRANCE DOOR: HOSPITAL IN LONDON N.W.3

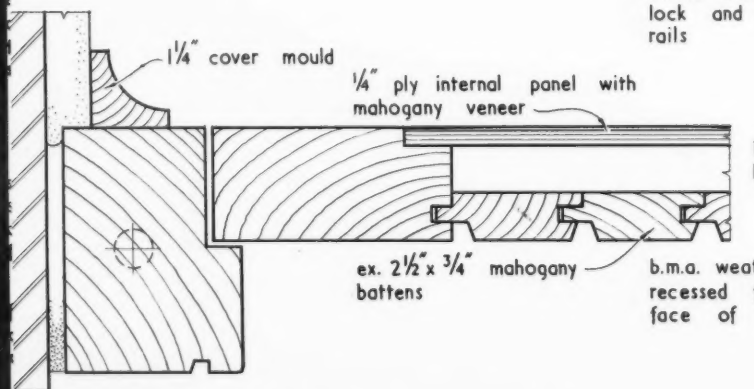
*John Lacey, architect*



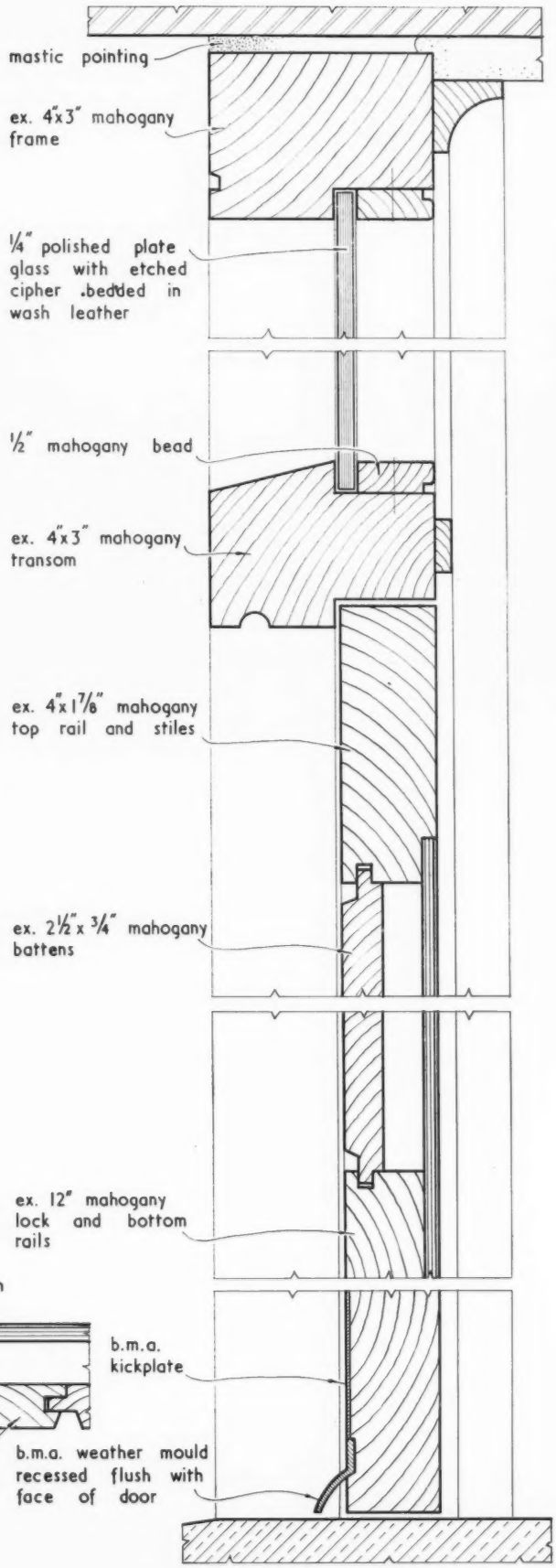

ELEVATION. scale ½" = 1'-0"




PLAN. scale ½" = 1'-0"




SECTION A.A. scale ⅜ full size




SECTION B.B. scale ⅜ full size





**THE UNIVERSITY OF LONDON**

The group of buildings shown here comprises:

*Above*, in the foreground, the new Students' Union building; in the background, Birkbeck College.

*On the right*, Senate House.

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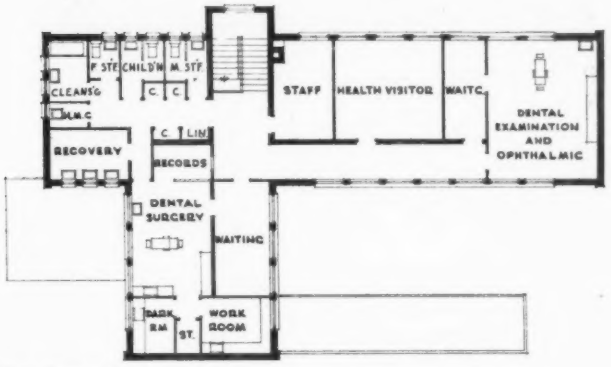
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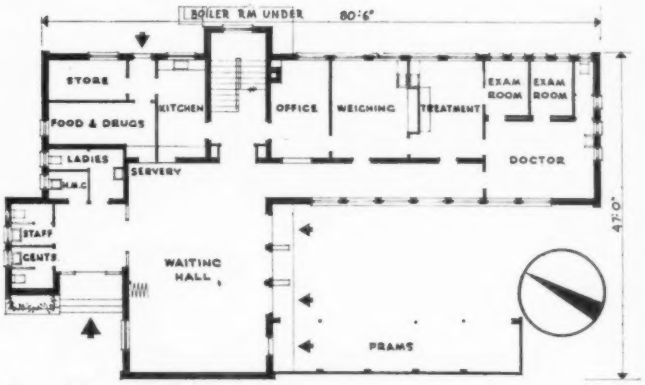





First floor plan

**Clinic, at St. Leonards-on-Sea, Sussex**

The Arthur Blackman Clinic is one of two identical clinics recently built by the Hastings Education Authority; E. O. Baxter, Borough Engineer; Stanley Ripley, assistant architect. The building, which serves the Hollington area of the town, faces a main road and consequently the majority of rooms are screened from noise by corridors or by the pram store. There are pre- and post-natal sections on the ground floor and dental and opthalmic departments on the first floor. The contract price was £17,539.




Ground floor plan [Scale: $\frac{1}{16}$" = 1' 0"]

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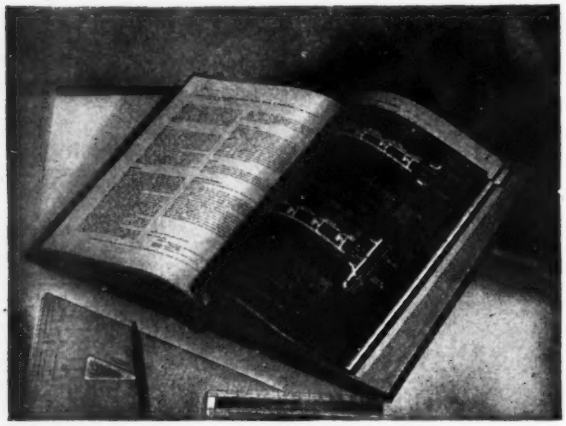



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## Buildings Illustrated

*Primary School, 57, Ladyloan Avenue, Drumchapel, Glasgow, for the Education Department, Corporation of Glasgow* (pages 298-299). *Architect:* A. Buchanan Campbell, A.R.I.B.A., F.R.I.A.S. *Quantity surveyor:* James G. Lynn, F.R.I.C.S. *General contractors:* Melville Dundas & Whitson Ltd. *Sub-contractors: Superstructure:* Vic Hallam Ltd. *Asphalt work:* Durastic Ltd. *Joinery and glazing:* James Laidlaw Ltd. *Roughcast finish:* Thomas & Bell. *Tiles and terrazzo:* John Youden Ltd. *Floor finishes:* Limmer & Trinidad Lake Asphalt Ltd. *Railings and gate:* A. M. Tweedie & Co. *Wood block flooring:* A. M. MacDougall & Son Ltd. *Electrical installations:* Claud Hamilton Ltd. *Painting:* Glasgow Corporation Education Department Painting Section. *Heating:* G. N. Haden & Sons Ltd. *Layout of Grounds:* Glasgow Corporation Parks Department. *Furniture:* The Educational Supply Association Ltd. *Furnishings:* D. MacDonald & Brothers Ltd.

## Announcements

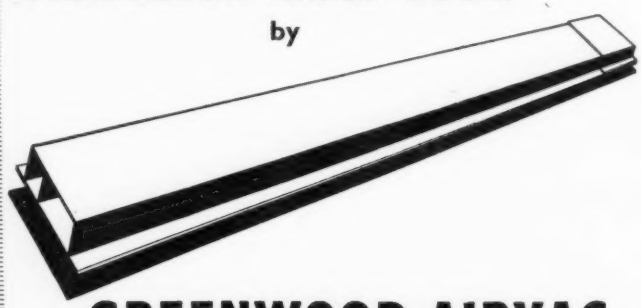
Richard Ferguson, A.R.I.B.A., AA.DIPL., has begun practice at 124, London Road, Chelmsford, Essex, telephone: Chelmsford 51845, where he will be pleased to receive trade catalogues, etc.

L. J. Slatter, M.INST.R.A., F.I.ARB., has transferred his practice from Leatherhead to London Street Chambers, 1/3, London Street, Chertsey, Surrey, where he will be pleased to receive trade catalogues, etc.




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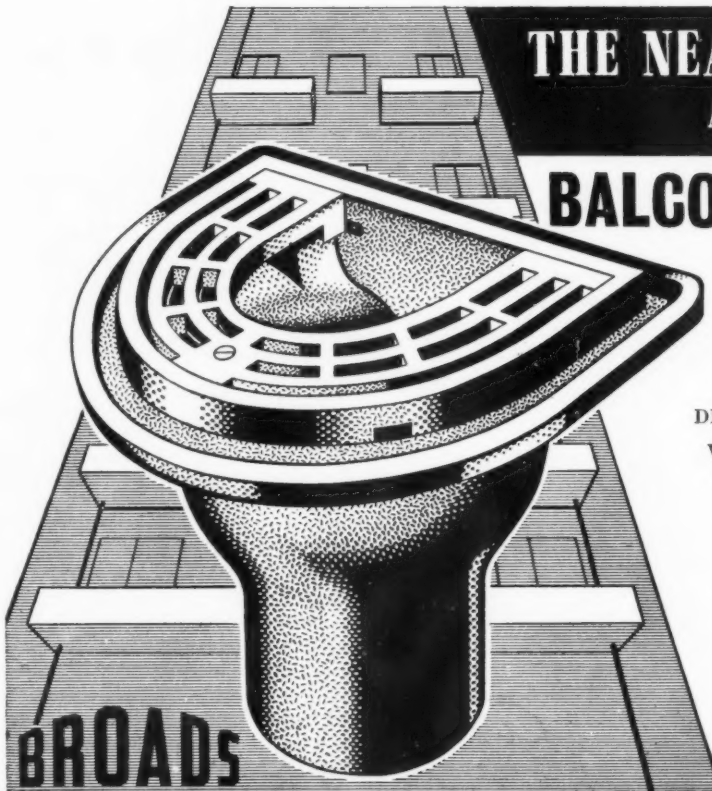
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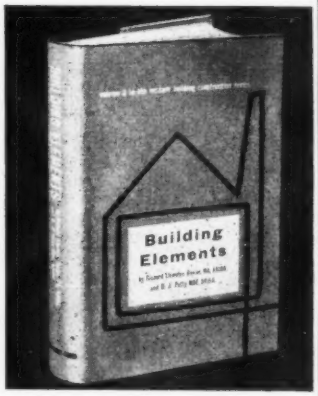
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## building elements by R. LLEWELYN DAVIES, M.A., A.R.I.B.A. and D. J. PETTY, M.B.E., M.A., A.R.I.B.A. Foreword by W. A. ALLEN, B.ARCH., A.R.I.B.A.

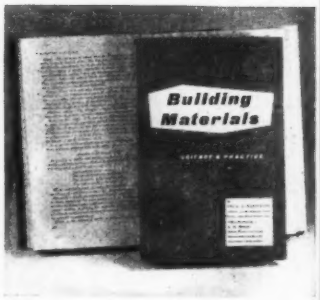



*This Book deals with the structural elements of which a building consists, its walls, roofs, floors, windows, etc., and explains the functional requirements a building has to meet. It then describes how these requirements are met in the actual design of the various structural elements.*

*The book is divided into two parts, the first of which contains chapters on the requirements of building elements under the headings of Design and Expression; Weather Exclusion; Thermal Insulation; Sound Insulation; Fire Protection. In Part 2 chapters deal with the principal kinds of External Walls; Internal Walls; Roofs; Floors; Stairs; Flues and Fireplaces; Windows and Doors; which are in current use, and show how far and in what way, each of these elements fulfils the requirements described in Part 1.*

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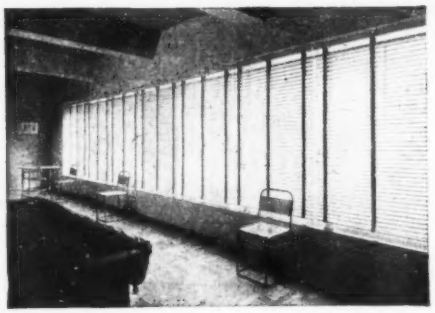

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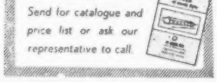
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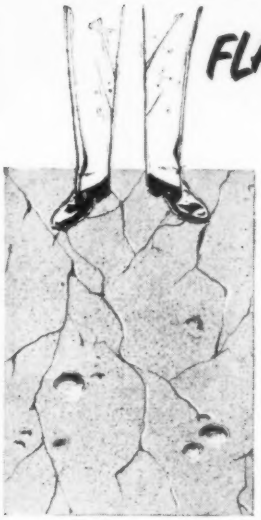
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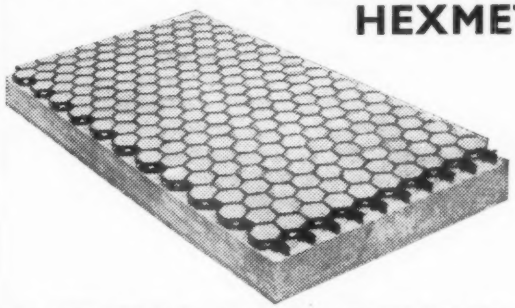
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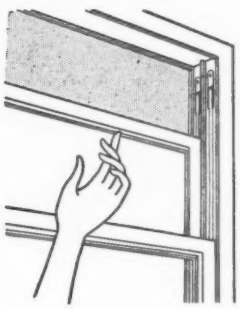


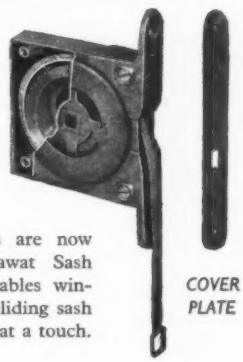
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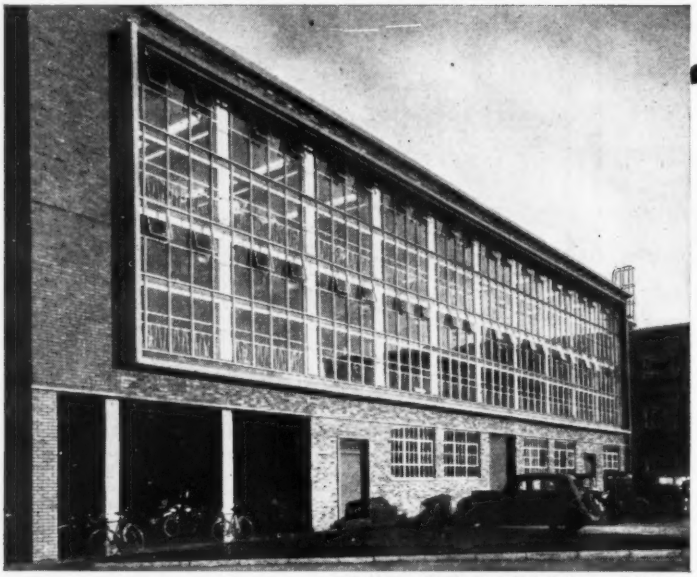
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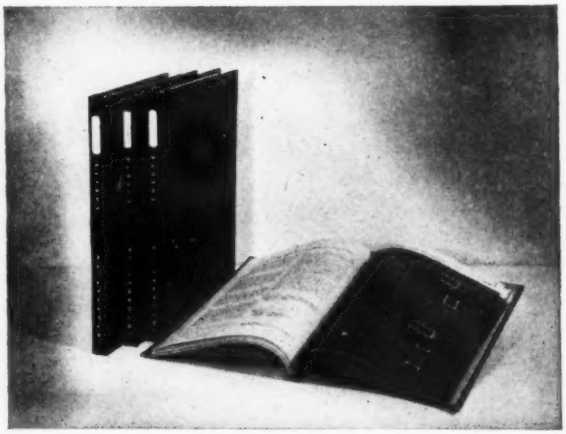
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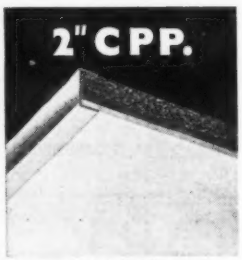
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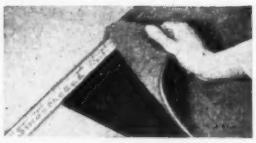
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Applications giving age, qualifications, present appointment, present salary, previous appointments with dates and names and addresses of three Referees, to be sent to Borough Architect, Central Buildings, Darlington, not later than 11th September, 1956. 2078

COUNTY BOROUGH OF BOLTON
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Applications are invited for the appointment of HEATING ENGINEER in the department of the BOROUGH ARCHITECT (Mr. K. Martin Baxter) at a salary within grade A.P.T. III/IV (£640—£885 per annum) of the National Salary Scales. Commencing salary according to experience.

Candidates should have had a wide experience in the design of all types of heating and ventilating, cold water and gas installations for all types of buildings and of the maintenance of plant.

The appointment is superannuable, and is subject to the passing of a medical examination.

Applications, giving details of experience, qualifications and the names of two referees, should be received by me not later than Monday, 10th September, 1956.

PHILIP S. RENNISON,
*Town Clerk.*

Town Hall, Bolton 2083

CITY OF PLYMOUTH
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT ARCHITECTS, Grade V (£795—£970). Applicants must be Registered Architects and preference will be given to members of the R.I.B.A.

Application forms, obtainable from the City Architect, Seymour Road, Plymouth, accompanied by copies of not more than three recent testimonials and/or names of persons to whom reference may be made, returnable not later than the 15th September, 1956. 2064

COUNTY BOROUGH OF ROCHDALE

Applications are invited for the appointment of ASSISTANT ARCHITECT, Grade A.P.T. IV (£710—£885), in the Architects' Department of the Borough Surveyor's Office.

Applications will be considered from candidates who are not fully qualified, on Grade III (£640—£765), proceeding to Grade IV when the necessary qualification is obtained. The commencing salary will not necessarily be the minimum of the Grade and will be fixed according to ability and experience.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Acts, and to passing a medical examination. Canvassing is prohibited and applicants must disclose whether they are related to any member or senior official of the Council.

Housing accommodation will be provided by the Council in appropriate circumstances.

Applications, stating age, qualifications, training and experience, together with the names and addresses of two persons to whom reference can be made, and endorsed "Assistant Architect," must be delivered to the Borough Surveyor, Town Hall, Rochdale, not later than 9 a.m. on Wednesday, the 19th September, 1956.

K. B. MOORE,
*Town Clerk.*

3018

CITY OF CANTERBURY

Applications are invited for the permanent appointment of a CHIEF TOWN PLANNING ASSISTANT, A.P.T. V (£795—£970).

Applicants for appointment must be Associates of the R.I.B.A. and T.P.I. They must have general planning experience and also be capable of dealing with three dimensional design problems, particularly in connection with redevelopment and reconstruction.

The commencing salary for the appointment will be fixed within the Grade, according to ability and experience.

Applications, together with names of two referees, must reach the City Architect and Planning Officer, Mr. L. Hugh Wilson, O.B.E., A.R.I.B.A., A.M.T.P.I., not later than 14th September, 1956.

Canvassing will disqualify.

J. BOYLE,
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NOTTINGHAMSHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT
APPOINTMENT OF ASSISTANT ARCHITECT

Applications are invited for the appointment of Assistant Architect. Salary £710—£885 per annum. Applicants must be qualified Architects and membership of the Town Planning Institute would be an advantage. Experience in the design and grouping of buildings, the re-development of built-up areas, and the preparation of housing layouts required.

Further particulars from County Director of Planning, Shire Hall, Nottingham, to whom applications must be submitted not later than 13th September, 1956.

A. R. DAVIS,
*Clerk of the County Council.*

3023

CAMBRIDGESHIRE COUNTY COUNCIL
COUNTY PLANNING DEPARTMENT

Applications are invited for the appointment of a PLANNING ASSISTANT on Grade A.P.T. IV of the National Joint Council's Scales (£710×£35 to £885).

The appointment is in the Development Control Section of the Department, and applicants should have extensive experience in this aspect of Planning Administration.

The appointment is subject to the provisions of the Local Government Superannuation Acts, the Council's conditions of service, and a satisfactory medical examination.

Applications, stating age, past and present appointments (with dates), qualifications, experience and present salary, together with the names of two referees, should be delivered to the undersigned not later than the 10th September, 1956.

CHARLES PHYTHIAN,
*Clerk of the County Council.*

Shire Hall, Cambridge. 3025

BOROUGH OF ASHTON-UNDER-LYNE

Applications are invited for the following appointments in the Borough Engineer and Surveyor's Department within the respective grades, according to experience.

(*a*) SENIOR ASSISTANT (QUANTITIES), Grade IV (£710—£885).
Qualifications: A.R.I.C.S. or equivalent.

(*b*) SENIOR ARCHITECTURAL ASSISTANT, Special Grade (£690—£840).
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Application forms may be obtained from the Borough Surveyor, Municipal Offices, Ashton-under-Lyne, and should be returned to the undersigned by 17th September, 1956.

G. A. MALONE,
*Town Clerk.*

Town Hall, Ashton-under-Lyne.
21st August, 1956. 3024

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

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Applicants for (*a*) above must be Associate Members of the R.I.B.A., and for (*b*) must have Inter. R.I.B.A. Commencing salary above minimum may be paid to successful candidates according to appropriate experience since qualification. Posts are subject to Whitley Council conditions and are superannuable.

Apply, stating which post, and giving age, qualifications (with dates) and experience, with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 17th September, 1956. 3017

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Applications are invited for STRUCTURAL DRAUGHTSMEN to assist the Senior Structural Engineer (salary within the range of £560—£725 per annum), according to qualifications and experience, with at least two years' experience in reinforced concrete and/or structural steel.

Forms of application from The County Education Architect, "Green Hall," Lichfield Road, Stafford, to be returned not later than 10 days after the date of this advertisement.

T. H. EVANS,
*Clerk of the County Council.*

3006

STAFFORDSHIRE COUNTY COUNCIL
EDUCATION ARCHITECT'S DEPARTMENT
TECHNICAL ASSISTANT (SITES)

Applications are invited for the appointment of Technical Assistant (Sites) in the Education Architect's Department on Grade A.P.T. IV (£710—£885 p.a.). Applicants should be experienced in the acquisition of property for local authority purposes, and have passed the Final Examination of the Royal Institution of Chartered Surveyors.

Forms of application from the County Education Architect, "Green Hall," Lichfield Road, Stafford, to be returned completed, 10 days from date of this advertisement.

T. H. EVANS,
*Clerk of the County Council.*

3005

PADDINGTON BOROUGH COUNCIL
HOUSING DEPARTMENT

Applications are invited for the following permanent posts (which are subject to N.J.C. conditions), at salaries within the scales shown, according to qualifications and experience:—

(*a*) SENIOR ASSISTANT ARCHITECT (A.P.T. VI, £910 to £1,110 p.a.). Candidates (A.R.I.B.A.), with a personality likely to obtain results with other staff, should have practical experience of building work, in the design and supervision of housing schemes, including multi-storey flats. Town planning would also be an advantage. (Quote "A.299.")

(*b*) ARCHITECTURAL ASSISTANT (two posts) (A.P.T. IV, £740 to £915 p.a.). Candidates should be Inter. A.R.I.B.A., capable of preparing working and detail drawings, competent draughtsmen, and possess good knowledge of building bye-laws, housing manual standards, and modern construction techniques. (Quote "A.300.")

(*c*) ASSISTANT QUANTITY SURVEYOR (two posts) (A.P.T. IV, £740 to £915 p.a.). Candidates should be experienced in estimate preparation, working up, abstracting, billing, site measurement, and working up to final account stage. Standard required: Inter. R.I.C.S. (quantities sub-division). (Quote "A.301.")

(*d*) DRAUGHTSMAN (A.P.T. I, £560 to £640), suitable for probationer Member R.I.B.A. (Quote "A.302.")

Applications (quoting appropriate reference) should state age, qualifications, experience, present and past appointments, names and addresses of three referees, and should reach me by 17th September, 1956.

W. H. BENTLEY,
*Town Clerk.*

Town Hall, Paddington Green, W.2. 3013

LONDON ELECTRICITY BOARD
SENIOR DRAUGHTSMEN

A vacancy exists for a Senior Draughtsman in the Southern Sub-Area (based at Beckenham, Kent). Applicants should have a good general and technical education to Ordinary National Certificate standard in Building, and be capable of supervising draughtsmen.

A vacancy exists for a Senior Draughtsman in the Hampstead/Willesden district. Applicants should have a good general and technical education in Electrical Engineering and Building Construction, and experience in a mains records office dealing with systems of all voltages up to 11 kV., and be capable of supervising draughtsmen.

These posts are graded under Schedule "D" of the National Joint Board agreement as Grade 5 (£735 to £840 per annum inclusive).

Application forms obtainable from Personnel Officer, 46, New Broad Street, London, E.C.2. Please state the particular vacancy preferred, and quote ref. PER/2229/30/A. 3015

STAFFORDSHIRE COUNTY COUNCIL
EDUCATION ARCHITECT'S DEPARTMENT

Applications are invited from competent HEATING ENGINEERS, qualified and experienced in the preparation of large heating schemes for educational establishments, Grade A.P.T. IV (£795—£970 p.a.), preferably Members of the Heating and Ventilating Engineers' Institute.

ELECTRICAL ENGINEER, qualified and competent to design lighting schemes for all educational establishments, Special Grade (£690—£840 p.a.), or Grade A.P.T. IV (£710—£885 p.a.), according to qualifications and experience.

The offices are modern and well-equipped, situate in a pleasant part of the town, and the Department has a large programme of interesting and varied work.

Forms of Application from A. C. H. Stillman, F.R.I.B.A., County Education Architect, "Green Hall," Lichfield Road, Stafford, to be returned 10 days from the receipt thereof.

T. H. EVANS,
*Clerk of the County Council.*

3004

WARWICKSHIRE COUNTY COUNCIL
ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECTS, Grade A.P.T. V (£795—£970). Applicants must be competent designers, having a knowledge of modern methods of construction and be capable of handling large building projects from sketch plan stage to completion.

(*b*) ARCHITECTS, Grade A.P.T. IV (£710—£885). Applicants must be competent designers, having a good knowledge of construction and be capable of handling medium sized contracts.

(*c*) ASSISTANT ARCHITECTS (scale £690—£840). The successful applicants will work in teams on large projects, but opportunity will be given to men with enthusiasm and ability to design and carry out smaller projects under the Group Architect.

The commencing salaries can be within the grades according to the ability and experience. The appointments are on the established staff, and subject to the Scheme and Conditions of Service of the National Joint Council for Local Authorities and the Local Government Superannuation Acts, 1937-1953. Successful candidates will be required to pass a medical examination.

The Council is unable to offer successful candidates housing accommodation.

Applications are to be on forms which can be obtained from G. R. Barnsley, F.R.I.B.A., County Architect, Shire Hall, Warwick.

L. EDGAR STEPHENS,
*Clerk of the Council.*

Shire Hall, Warwick. 2098

BOROUGH OF SOLIHULL
ASSISTANT ARCHITECTS—A.P.T. Grade IV (£710×£35—£885)

Applications are invited for the above-mentioned posts in the Borough Engineer and Surveyor's Department.

Solihull has a population of 82,000, which is planned to increase to 110,000 over the next few years, and the appointments are primarily in connection with the large programme of Schools and Capital Work Schemes, including Housing, Crematorium, Corporation Depot, etc., which are in hand as a result of the rapid expansion of the Borough.

No application forms are being issued, but the Borough Engineer will be pleased to answer specific questions regarding the posts.

Commencing salary may be fixed at the appropriate stage within the Grade, according to qualifications and experience.

The appointments are subject to the Local Government Superannuation Acts, the National Scheme of Conditions of Service, and one month's notice on either side.

Where applicable, housing accommodation may be made available as soon as possible.

Applications, giving the names of two referees, should be sent to the Borough Engineer and Surveyor, 90, Station Road, Solihull, not later than Tuesday, 11th September, 1956.

W. MAURICE MELL,
*Town Clerk.*

16th August, 1956. 2096

WILTSHIRE COUNTY COUNCIL
COUNTY ARCHITECT'S DEPARTMENT

Applications invited for TWO ASSISTANTS for superannuable appointments. Salary £640—£765. Preference given to holders of Inter R.I.B.A. Local Government experience desirable but not essential. Applications, stating age and experience, with names of three referees, to Clerk of the County Council, County Hall, Trowbridge, by not later than 14th September, 1956. 3057

BUCKS COUNTY COUNCIL

Vacancies exist in the County Architect's Department for young qualified ARCHITECTS to work on progressive Architecture. Salaries ranging between £690 and £885 p.a., according to ability of people appointed.

A weekly allowance of 25s. and return fare home once every two months may be paid for six months to newly appointed married officers of the Council unable to find accommodation.

Applicants should write, giving full details, not later than Monday, 17th September, 1956.

F. B. POOLEY.
*County Architect.*

3007

COUNTY OF CORNWALL
APPOINTMENT OF PLANNING ASSISTANT

Applications are invited for this appointment in the County Planning Department, at headquarters, Truro, with salary within A.P.T. II (£595—£675).

Candidates must have passed the Intermediate Examination of one of the Professional Institutes, and preference will be given to candidates with Inter. T.P.I. Experience in carrying out basic surveys, ability to map and present the information by the use of modern techniques is essential.

The customary service conditions of the Local Government Service will apply, and the successful candidate will be required to pass a medical examination.

Applications, together with the names and addresses of three referees, should be addressed to the County Planning Officer, County Hall, Truro, to reach him not later than 15th September, 1956. (No. application forms are being issued.)

E. T. VERGER.
*Clerk of the County Council.*

County Hall, Truro.
17th August, 1956. 2095

SENIOR ARCHITECTURAL ASSISTANT required by Somaliland Government. Appointment on probation for two years to permanent and pensionable establishment. Commencing salary according to experience in scale (including Inducement Allowance and 10 per cent. temporary cost-of-living allowance, £838, rising to £1,544 a year. Free passages. Liberal leave on full salary. No local income tax. Candidates must have studied up to Inter. R.I.B.A. standard, have had at least 10 years' experience in an Architect's office, be good draughtsmen, capable of handling schemes from sketch plan stage to preparation of working drawings, and have had experience in handling contracts, together with estimating and costing and ability to deal with relative correspondence. Experience of work for tropical conditions an advantage. Write to the Crown Agents, 4, Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience, and quote M2B/41927/AG. 3049

BOROUGH OF WATFORD
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment within Grade A.P.T. II (£595—£675) per annum.

Form of application returnable by 11th September, 1956.

F. C. SAGE.
*Borough Engineer, Surveyor and Architect.*

Town Hall, Watford. 2094

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited for the post of SURVEYING ASSISTANT in the Regional Architect's Department. Salary scale: £480 p.a. (at age 21 or over), rising by £20 (7)×£25 (2) to £670 p.a., but starting salary may be fixed (within certain limits) according to years of appropriate practical experience since the passing of the Intermediate Examination of the R.I.C.S. or an examination recognised as the equivalent. Compulsory Superannuation. Applications, stating age, training, qualifications, previous experience and present salary, with the names of two referees, should be submitted to the Secretary, Oxford Regional Hospital Board, 43, Banbury Road, Oxford, by not later than 14th September, 1956. 2089

CITY OF BELFAST

Applications are invited for the following positions in the City Surveyor's Department:—

SENIOR ARCHITECT. Salary £1,000×£37 10s.—£1,250 per annum.

The person appointed should be capable of carrying through projects from sketch plans to working drawings and specifications, also giving a lead on incidental services, and supervising the erection of the buildings, and have experience in, or be capable of, leading a group of Junior Assistants on large size projects if required to do so.

Qualifications: Registered by examination and with not less than 8 years' post-qualification experience.

ARCHITECT, Class I. Salary £855×£35—£1,100 per annum.

Qualification: Registered Architect.

The work carried out by the Architectural staff includes Public Baths, Libraries, Sports Pavilions and Welfare Homes in the form of new structures and alterations to existing buildings.

The commencing salary in each case will be fixed according to the qualifications, ability and experience of the person appointed. Superannuation contributions of approximately 6 per cent. of remuneration will be payable. Reciprocal pension arrangements exist between the Corporation and other Public Authorities. Favourable consideration will be given in suitable cases to the recoupment, up to a limit of 50 per cent. of the removal expenses of newly appointed officers.

Canvassing will disqualify.

Application forms and conditions of appointment are obtainable from Room 39, City Hall. Completed applications must reach the undersigned by 20th September.

JOHN DUNLOP,
*Town Clerk.*

City Hall, Belfast. P.O. Box 234.
17th August, 1956. 2088

SOUTH CAMBRIDGESHIRE RURAL DISTRICT COUNCIL
APPOINTMENT OF ASSISTANT ARCHITECT

Applications are invited for the appointment of Assistant Architect in the department of the Council's Architect. Salary within the range of A.P.T. III (£640—£765) or the Special Grade (£690—£840), according to qualifications and experience.

The appointment will be subject to the provisions of the Local Government Superannuation Acts, the National Scheme of Conditons of Service, to a satisfactory medical examination and one month's notice in writing on either side.

Forms of application can be obtained from the undersigned, to whom they must be returned not later than first post on Monday, the 10th September, 1956.

Housing accommodation in the Rural District may be provided for the successful candidate, if required.

Canvassing, directly or indirectly, will disqualify.

B. G. CRAFT,
*Clerk to the Council.*

County Hall, Hobson Street, Cambridge.
18th August, 1956. 2087

BOROUGH OF FINCHLEY
HOUSING AND TOWN PLANNING DEPARTMENT
ARCHITECTURAL ASSISTANT

Salary A.P.T. Grade II (£595×£20—£675), plus London weighting.

Subject to satisfactory service, the duration of the post will be approximately two years.

Candidates should have passed the R.I.B.A. Intermediate Examination, and preference will be given to those with practical office experience in housing work.

The National Scheme of Conditions of Service and the Local Government Superannuation Acts apply, and medical examination required.

Applications, stating age and full particulars of qualifications and experience, with names of two referees, to the Borough Housing and Town Planning Officer, The Avenue, Finchley, N.3, by first post on Wednesday, the 12th September, 1956.

R. M. FRANKLIN,
*Town Clerk.*

Municipal Offices, Finchley, N.3. 2086

URBAN DISTRICT COUNCIL OF HARLOW
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of Architectural Assistant in the Department of the Engineer and Surveyor at a salary within A.P.T. IV (£710—£885 per annum).

The Urban District covers the new town of Harlow, and has a present population of 30,000, rising to 80,000 in approximately 10 years.

Preference will be given to applicants who have passed the examination for Associate R.I.B.A., or hold a University degree or Diplomas in Architecture accepted by that Institute.

The appointment is subject to the National Conditions of Service, superannuation, and the passing of a medical examination. Favourable consideration will be given to the provision of new housing accommodation. Reasonable removal expenses will be paid by the Council.

Applications in writing, giving names of two referees, to be made to the Engineer and Surveyor, A. W. R. Webb, A.M.I.C.E., M.I.Mun.E., at Netteswell Hall, Harlow, not later than 14 days after the date of publication of this advertisement.

D. F. BULL,
*Clerk of the Council.*

31st August, 1956. 3041

COUNTY BOROUGH OF BOLTON
QUANTITY SURVEYOR

Applications are invited for the appointment of an ASSISTANT QUANTITY SURVEYOR in the department of the Borough Architect (Mr. K. Martin Baxter) at a salary within Grade A.P.T. I/IV (£530—£885 per annum) of the National Salary Scales. Commencing salary according to experience.

Applicants should have experience in the taking off of quantities for architectural works and in measuring for interim and final accounts.

Previous local authority experience is not essential.

The appointment is superannuable, and is subject to the passing of a medical examination.

Applications, giving details of experience, present post and salary, and the names of two referees, should be received by me not later than Monday, 10th September, 1956.

PHILIP S. RENNISON,
*Town Clerk.*

Town Hall, Bolton. 2091

METROPOLITAN BOROUGH OF CHELSEA

Applications are invited for the established appointment of SENIOR ARCHITECTURAL ASSISTANT (A.P.T. IV/V, £710—£970). Applicants should have had a sound architectural training and experience. Preference will be given to Associates of the R.I.B.A. The person appointed will be required to assist with the design of new dwellings and the conversion of existing houses into flats, and must be competent to prepare working and detail drawings.

The appointment is subject to the National Scheme of Conditions of Service and will carry the appropriate London "weighting" allowance.

Apply stating age, education, experience, qualifications, and three referees, to the Town Clerk, Town Hall, Chelsea, S.W.3, by Wednesday, 12th September. Canvassing disqualifies. 3001

CITY OF PORTSMOUTH
CITY ARCHITECT'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) ARCHITECTURAL ASSISTANT, Grade II (£595-£675).

(*b*) TEMPORARY CLERK OF WORKS (£601 18s. 0d. per annum).

Applicants for (*a*) should be of Inter. R.I.B.A. standard with adequate office experience, and for (*b*) have a practical knowledge of all branches of the building trade, and be competent to supervise the erection of housing contracts and public buildings.

Applications, setting out in tabular form, name, age, qualifications, present post and salary, previous posts with dates, details of experience, with names of two referees, must be delivered to the undersigned not later than 12 noon, Monday, 24th September, 1956.

Canvassing will disqualify.

V. BLANCHARD,
*Town Clerk.*

City Council Chambers,
1, Clarence Parade,
Portsmouth. 3051

DEPARTMENT OF MUNICIPAL AFFAIRS AND SUPPLY—PROVINCE OF NEWFOUNDLAND, CANADA
APPOINTMENT OF TOWN PLANNING ASSISTANT

Applications are invited for the above appointment in the Provincial Planning Office in St. John's. The appointment, which is established, is within a salary scale $4,900×$100—$5,300. Duties include the preparation of Municipal Plans for communities throughout the Province. Applicants must have appropriate professional qualifications in Town Planning, together with considerable practical post graduate experience, preferably in County or Municipal Planning.

Please reply to the undersigned, giving details of age, experience, present salary and qualifications, together with recent testimonials or references.

DEPUTY MINISTER OF MUNICIPAL AFFAIRS.

St. John's, Newfoundland. 3048

NORTH WEST METROPOLITAN REGIONAL HOSPITAL BOARD

ASSISTANT QUANTITY SURVEYOR required. Applicants should be Associate Members of the R.I.C.S. and be thoroughly experienced in taking-off, abstracting and billing of quantities, measurement of work in progress, and settlement of final accounts.

Salary scale: £640×£25 (4)×£30 (4)×£35 (2)—£930, plus £20—£40 London weighting. Improved scale expected. Salary above minimum may be paid, according to appropriate experience since obtaining qualification.

Applications, stating age, qualifications (with dates) and experience, together with names of two referees, to Secretary, North West Metropolitan Regional Hospital Board, 11a, Portland Place, W.1, by 10th September. 2097

STAFFORDSHIRE COUNTY COUNCIL
COUNTY PLANNING AND DEVELOPMENT DEPARTMENT

Applications are invited for the appointment of a PLANNING ASSISTANT in the Northern Area Planning Office, Newcastle, Staffs., within A.P.T. Grades III-IV (£640 to £885). Commencing salary according to experience and qualifications.

Applicants should be professionally qualified and have had experience in the preparation and carrying into effect of housing estate layouts, estate redevelopment work and urban redevelopment schemes.

Applicants should give details of age, education and training, qualifications, present and previous appointments and experience, and the names of two persons to whom reference can be made. Applications, in which relationship to any member or senior officer of the County Council must be disclosed, should be sent to D. W. Riley, County Planning and Development Officer, 41a, Eastgate Street, Stafford, not later than the 15th September, 1956.

T. H. EVANS,
*Clerk of the County Council.*

3040

CITY OF CARDIFF
APPOINTMENT OF ARCHITECTURAL ASSISTANT

Applications are invited for the following appointment in the City Surveyor's Department:—ARCHITECTURAL ASSISTANT (EDUCATION), A.P.T. IV (£710—£885 per annum).

Candidates should possess the minimum qualifications and experience prescribed by the National Joint Council for Local Authorities' Administrative, Professional, Technical and Clerical Services for posts in the above-mentioned Grades.

General Conditions of Appointment may be obtained from the undersigned.

Applications, accompanied by the names and addresses of three referees and endorsed "Architectural Assistant (Education)—A.P.T. Grade IV," must be delivered to me not later than the 14th September, 1956.

B. TAPPER-JONES,
*Town Clerk.*

City Hall, Cardiff.
August, 1956. 3038

UNIVERSITY COLLEGE OF THE GOLD COAST
DEPARTMENT OF AGRICULTURE

Applications are invited for the post of BUILDING SUPERVISOR in connection with an Agricultural Research Station to be established near Kade in the forest region. Applicants should possess a Clerk of Works qualification, have practical knowledge of buildings and installations, and be able to supervise work of contractors or own labour.

Appointment for three years at salary of £1,500 per annum, preferably for unmarried man or man with wife but no children in Gold Coast. Family allowance £100 per annum per child (maximum £500 p.a.). Outfit allowance £60; F.S.S.U. or equivalent gratuity. Passages on appointment, normal termination and annual leave. Part-furnished accommodation at rent not exceeding 7.5 per cent. of salary.

Detailed applications (5 copies), with names of three referees, should be sent before 8th October, 1956, to the Registrar, University College of the Gold Coast, Achimota, Accra. An additional copy of all applications should be sent to the Assistant Registrar (London), University College of the Gold Coast, 29, Tavistock Square, London, W.C.1, from whom United Kingdom enquirers may obtain further information. 3036

HAYES AND HARLINGTON URBAN DISTRICT COUNCIL

Applications are invited for (*a*) ARCHITECTURAL ASSISTANT (Permanent), Grade A.P.T. II, *i.e.*, £595—£675 per annum; (*b*) SENIOR ARCHITECTURAL ASSISTANT (Temporary), Grade A.P.T. IV, *i.e.*, £710—£885 per annum, plus appropriate London "weighting" in each instance, 21-25 years £20 per annum, 26 years and over, £30 per annum. Candidates for (*a*) must have passed the R.I.B.A. Inter. Exam., good experience of housing work with a local authority; (*b*) must be a Registered Architect, have good general experience in design and construction in relation to municipal housing and other works, and capable of supervising large building contracts. Housing accommodation will be made available if necessary for (*a*) and (*b*). 5-day week. Further particulars and form of application obtainable from the undersigned, which when completed must be returned as soon as possible.

GEORGE HOOPER,
*Clerk and Solicitor.*

Town Hall, Hayes, Middx. 3044

AIR MINISTRY Works Designs Branch requires in London and Provinces ARCHITECTURAL ASSISTANTS, experienced in planning/preparation of working drawings and details for permanent and semi-permanent buildings.

Salaries in London up to £925 p.a. (men) and £831 (women). Lower in Provinces. Starting pay depending on age, quals. and experience. Long-term possibilities, with promotion and pensionable prospects. 5-day week. 3 weeks, 3 days' leave a year. Liability for overseas service. Normally natural born British subjects. Write, stating age, quals., employment details., incl. type of work done, to any Employment Exchange, quoting Order No. Borough 1000. 3029

SHEFFIELD REGIONAL HOSPITAL BOARD

Applications are invited from persons with experience in a builder's or quantity surveyor's office for the post of SURVEYORS' CLERK in the Architectural Department of the Board's Headquarters. Salary scale is £425 (at age 24 or over)×£15 (3)×£20 (5)×£25 (1)—£595. The appointment is subject to the Whitley Council terms and conditions of service, to the National Health Service (Superannuation) Regulations, and to one month's notice on either side. Applications, stating age and experience, together with the names of three referees, should reach the Secretary to the Board, Fulwood House, Old Fulwood Road, Sheffield, 10, by 15th September, 1956. 3063

OXFORD REGIONAL HOSPITAL BOARD

Applications are invited from qualified persons for the post of SENIOR ASSISTANT QUANTITY SURVEYOR in the Regional Architect's Department. Commencing salary £920, rising by increments of £30 (5) and £25 (1) to £1,095 p.a. Compulsory superannuation. A car is desirable. Applications, stating age, training, qualifications, previous experience and present salary, with the names of two referees, should be submitted to the Secretary, Oxford Regional Hospital Board, 43, Banbury Road, Oxford, by not later than 14th September, 1956. 2090

MIDDLESEX COUNTY COUNCIL—COUNTY PLANNING DEPT.

PLANNING ASSISTANT A.P.T. III (£640—£765, plus Westminster weighting of £35 p.a., plus appropriate London weighting). Appointment at minimum of scale. Preference for qualifications in Town Planning, Architecture or Surveying. 5-day week. Prescribed conditions. Application forms from County Planning Officer, 10, St. George Street, S.W.1, returnable by 10th September. Quote T.473 A.J.) Canvassing disqualifies. 3010

## Tenders Invited

*5 lines or under, 12s. 6d.: each additional line, 2s.*

INVITATION TO TENDER

The Board of Trade has for disposal about 340 tons of Magnesium Chloride Solution in store at the North Plant, Magnesium Elektron, Ltd., Clifton Junction, Swinton, Manchester.

Full details and Forms of Tender (returnable not later than 10 a.m. on the 5th September, 1956), may be obtained from the Board of Trade, Commodity and General Division, 8(b), Room 314, Lacon House, Theobalds Road, London, W.C.1. (Telephone Chancery 4411, extension 323.)

3035

## Architectural Appointments Vacant

*4 lines or under, 7s. 6d.: each additional line, 2s.*

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, MANCHESTER.

APPLICATIONS are invited for the following appointments:—

(*a*) SENIOR ASSISTANT ARCHITECTS, with experience of work on commercial and industrial projects.

(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings from preliminary details.

(Salary range £550 to £820 per annum.)

There is a five-day week in operation, and both appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3871

CO-OPERATIVE WHOLESALE SOCIETY, LTD., ARCHITECT'S DEPARTMENT.

ASSISTANT ARCHITECTS, WORKER-UP. Applications are invited from suitably qualified persons. Salary on a scale £485—£945 inclusive of L.W., with placing according to age, qualifications and experience. The posts are superannuable, subject to medical examination. Five-day week in operation. Applications, stating age, experience, qualifications and salary required, to.—W. J. Reed, F.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 99, Leman Street, London, E.1. 2824

CO-OPERATIVE WHOLESALE SOCIETY, LTD. ARCHITECT'S DEPARTMENT, BIRMINGHAM.

APPLICATIONS are invited for the following appointments in a newly formed Branch Office. Interesting and varied commercial and industrial projects.

(*a*) SENIOR ASSISTANT ARCHITECT, with experience in Store and Shop Design.

(Salary range £820 to £975 per annum.)

(*b*) ASSISTANT ARCHITECTS, capable of preparing working drawings and details from preliminary sketches.

(Salary range £550 to £820 per annum.)

Both appointments offer prospects of upgrading.

Applications, stating age, experience, qualifications, and salary required, to G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4. 3872

CROYDON.—ARCHITECTURAL ASSISTANT required immediately for interesting and varied work. Inter./Final standard; capable of running small contracts.—Write age, experience, and salary required, to George Lowe & Partner, 4, High Street, Croydon, Surrey. 1951

ASSISTANT ARCHITECT required by West End firm for important airport, industrial and office schemes. Salary according to experience. Box 1891.

ARCHITECTURAL ASSISTANT required in busy London office with varied practice. Good salary and prospects for suitable applicant. 5-day week. Write, giving particulars of age, qualifications, experience, etc., to Box 775, c/o 7, Coptic Street, W.C.1. 9313

LONDON Consultants require immediately ASSISTANTS of Intermediate and R.I.B.A. standard for varied and interesting contemporary industrial projects. Responsibility given to applicants with good design sense and constructional ability. Apply, giving full particulars and salary required, to Box No. 401, Glovers Advertising Ltd., 351, Oxford Street, London, W.1. 9341

ASSISTANT ARCHITECT required for Edinburgh Office. Applicants should have good general experience but preference will be given to applicants with experience in the design of schools. Pension Scheme. Salary £1,000 per annum. Fairbrother, Hall & Hedges, 27, Rutland Square, Edinburgh. 2028

FOLKESTONE practice has vacancies for ARCHITECTURAL ASSISTANTS. Interesting and varied work, 5-day week. Apply stating age, experience and salary required: Willan, Stewart & Waite, A.R.I.B.A., 127, Sandgate Road, Folkestone, Kent. Folkestone 2134. 2012

RONALD WARD & PARTNERS require an ARCHITECTURAL ASSISTANT, with contemporary outlook and willing to use own initiative. Salary range £500 to £800. Interesting and varied work, home and abroad. Congenial working conditions.—Apply 29, Chesham Place, Belgrave Square, S.W.1. Telephone Belgravia 3361. 2084

SCHERRER & HICKS, of 19, Cavendish Square, W.1 (Tel.: Museum 1105), require immediately several ARCHITECTURAL ASSISTANTS of Intermediate standard. The work is varied and covers Research Laboratories, Offices, Housing and Schools. Five-day week. Salary by arrangement. Box 1980.

ARCHITECT required to take responsibility of progressive department attached to old established firm of Surveyors and Valuers, North East Kent. Age 35 to 45. General practice with drawing staff of 3. House available. Car driver. Write stating age, experience and salary required to Box 1974.

PETER LAWRENCE, A.R.I.C.S., requires TAKER-OFF in his Wimbledon office. Flat available if required. 26, The Broadway, Wimbledon, S.W.19. Telephone Wimbledon 2993. 1964

ARCHITECTURAL ASSISTANTS, Intermediate and Final standard, required for Coventry and London offices. Excellent opportunities in varied practice covering wide area. Good salaries, closely related to capabilities and reviewed annually. Pension scheme available. 5-day week. Travelling expenses to applicants selected for interview.—W. S. Hattrell & Partners, 1, Queen's Road, Coventry—60668, and 14, Hanover Square, London, W.1—Mayfair 4992. 2057

ARCHITECT'S ASSISTANTS required immediately. Inter/Final standard. Salary according to experience. 5-day week. Staff canteen. Pension Scheme.—Applications in writing, giving full details of age, experience and salary, to Personnel Department, British Home Stores, Ltd., 129, Marylebone Road, London, N.W.1. 2056

ARCHITECTURAL ASSISTANT wanted, early September. Interesting and varied work in a pleasant office. Scope for initiative and enterprise. 5-day week.—Maurice W. Jones, 1, College Yard, Worcester. 2054

LARGE London practice requires young QUALIFIED ARCHITECT, to specialise in detail design of new office buildings.—Write to Box 2036, stating details of your career and salary required.

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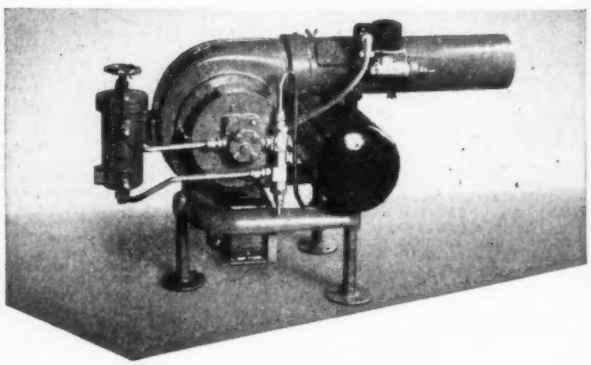
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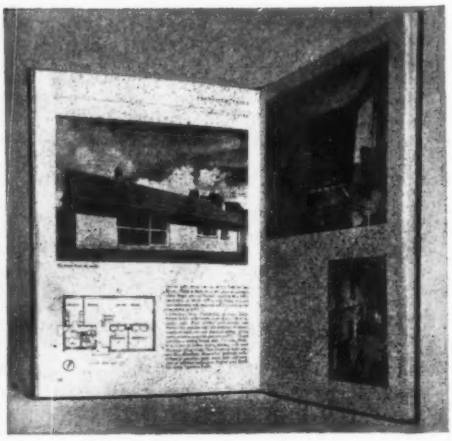
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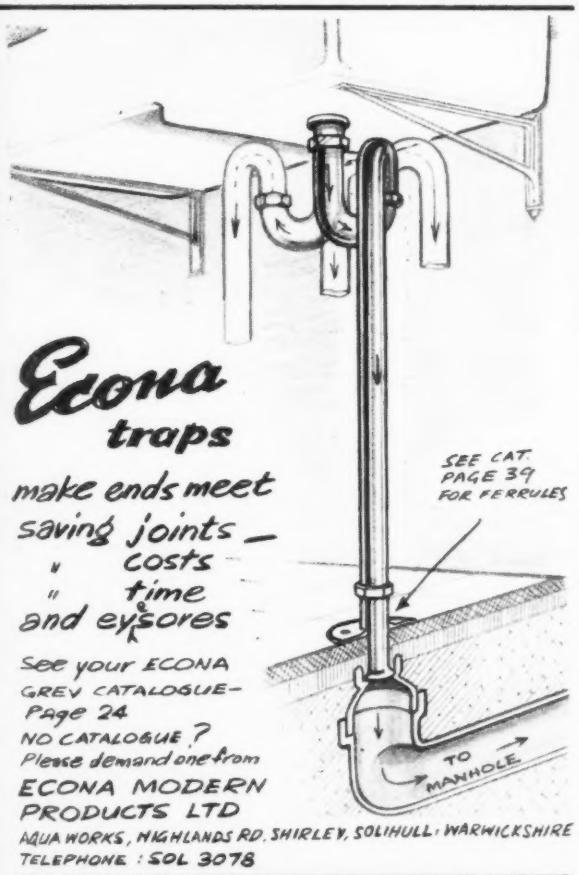
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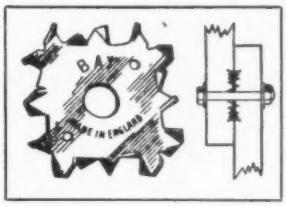
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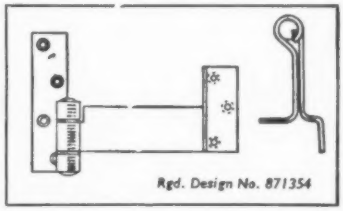
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